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INDEX TO THE MODERN HOSPITAL

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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A COMPLETE SUBURBAN HOSPITAL—THE MUHLENBERG

New Buildings and Reconstructed Pavilions Have Brought the Institution to a Point of High Efficiency and Inspiring Architecture

By F. J. HUBBARD, Trustee of the Hospital

STANDING in the middle of a well-shaded eleven-acre lawn on the outskirts of Plainfield, N. J., is a little group of buildings which we are pleased to call the *New* Muhlenberg Hospital; pleased to call it that not alone because some of its buildings are new and all have been overhauled, but because we feel that we have provided every need of a general hospital, and that the provisions are in good balance for the needs of a community like Plainfield.

Indeed, in all our investigation of hospitals we found none which quite fitted our ideal of a community plant, and which we endeavored to work out in making this the most *complete* plant that could be arranged for hospital work.

The ward capacity is generous in proportion to the total number of beds, and the wards are unusually attractive and have every desirable arrangement for service.

The private rooms and semi-private rooms are in a building by themselves, at one end of the group, thus facilitating the segregation of visitors to pay patients and to ward patients and separating the service, obviating a frequent cause of complaint where the service to ward and private patients is combined.

The obstetrical pavilion is at the other end of the group, and the inevitable noises from this building cannot be heard from any other building in which adult patients are cared for. The obstetrical pavilion has a delivery room, with complete sterilizing arrangements, enabling any kind of obstetrical or gynecological work to be done, and has private rooms, a ward, and a nursery, together with service rooms.

The main floor of the administration building is used entirely for administration, except that the nurses' dining room is on this floor. The second story of the administration building is devoted to children, and has a ward and private and isolation rooms. The babies' bath shown in the advertisement of the Leonard-Rooke Company in the May, 1916, issue of The Modern Hospital was originally designed by the architects for this department, and has proved a very satisfactory fixture for the purpose.

The basement of the administration building is devoted entirely to the clinics, or out-patient department, and most satisfactory provision is made for general medical and surgical work—eye, ear, nose, and throat, orthopedic, dermatological, genitourinary, and dental clinic.

The operating pavilion contains the main and an auxiliary operating room, a general sterilizing room, an accident operating room, and an x-ray department. It is interesting to note that the safety operating lamp, equipped with both gas and electric light, was originated for this hospital.

The pathological laboratory is a pavilion devoted entirely to pathological work, and occupies a central position in the group, immediately opposite the operating pavilion.

The service pavilion contains the general kitchen and the special diet kitchen rooms, and, in an upper story, the rooms for the female help. All of the foregoing buildings are connected by corridor, thus forming one unit.

The laundry and power plant are contained in a separate building.

The nurses' home is a separate building where

practically every nurse has a separate room that is light, airy, well furnished, and having the attributes of a real home.

Isolation is provided for in a separate building on the premises.

Such, in general, is our present arrangement, but the history of the months on months of careful planning, investigation, and discussion which made this possible can never be written. No plan was ever finally adopted until it had been viewed and discussed from every angle and in the light of the successes and failures of similar institutions; then, after the board of governors had worked out the details, the medical staff were asked to express their views, which they did, freely and generously. The plans finally executed included a new private room pavilion, a new pathological laboratory, and a new obstetrical pavilion, while the old private room section was so completely reconstructed that you may well include a new children's ward in this category. The general offices, dining rooms, kitchen, diet kitchen, wards, out-patient department, x-ray department, and operating pavilion were practically rebuilt and brought up to date, and, while a description of this work would undoubtedly prove of interest to those having similar problems of old buildings to meet, it would probably unduly lengthen this article to include in it all of such work.

Muhlenberg was rebuilt ten or twelve years ago on the pavilion plan, and it seemed wise, considering our available grounds and the condition of our plant, to continue this scheme and erect one building for private patient work exclusively, and the result is a three-story fireproof building of red tapestry brick and limestone trimmings of most pleasing appearance. In size this building is practically 40 by 100 feet, with a central corridor extending the full length of the building, from which the rooms open on both sides, with the result that every room has excellent light and ventilation.

Fig. 1. Muhlenberg Hospital. Administration building.

On each floor there is a generous solarium inclosed in glass and steam heated in winter, and so arranged that it can be entirely opened up in summer. These are fitted up with rugs and easy chairs to make them as homelike as possible, and are a source of delight to convalescents. The rooms are all of good size, and some even generous in their proportions, with bath and other rooms connecting. These rooms en suite have been in almost constant demand, even though they were priced considerably higher simply because of the luxury.

Each floor has two general toilets and baths, one each for men and women, a slop sink room for the maid and a commodious duty room for the nurses' work, as well as a diet kitchen. These diet kitchens are all connected by dumbwaiter, so that food from the general or special kitchens

Fig. 2. Muhlenberg Hospital. Closson-Edgerton maternity building.

is readily and rapidly distributed. Each diet kitchen is equipped with a modern steam table and gas hot plate, a sink with hot and cold water, commodious dish closets, and white porcelain refrigerators.

The furniture in the nurses' duty room is movable, and of enamel and glass, the only stationary objects being the sinks and some marble shelves, unless we include the steam warming closets.

The floors and wainscoting of the service rooms

Fig. 3. Muhlenberg Hospital. Group of buildings.

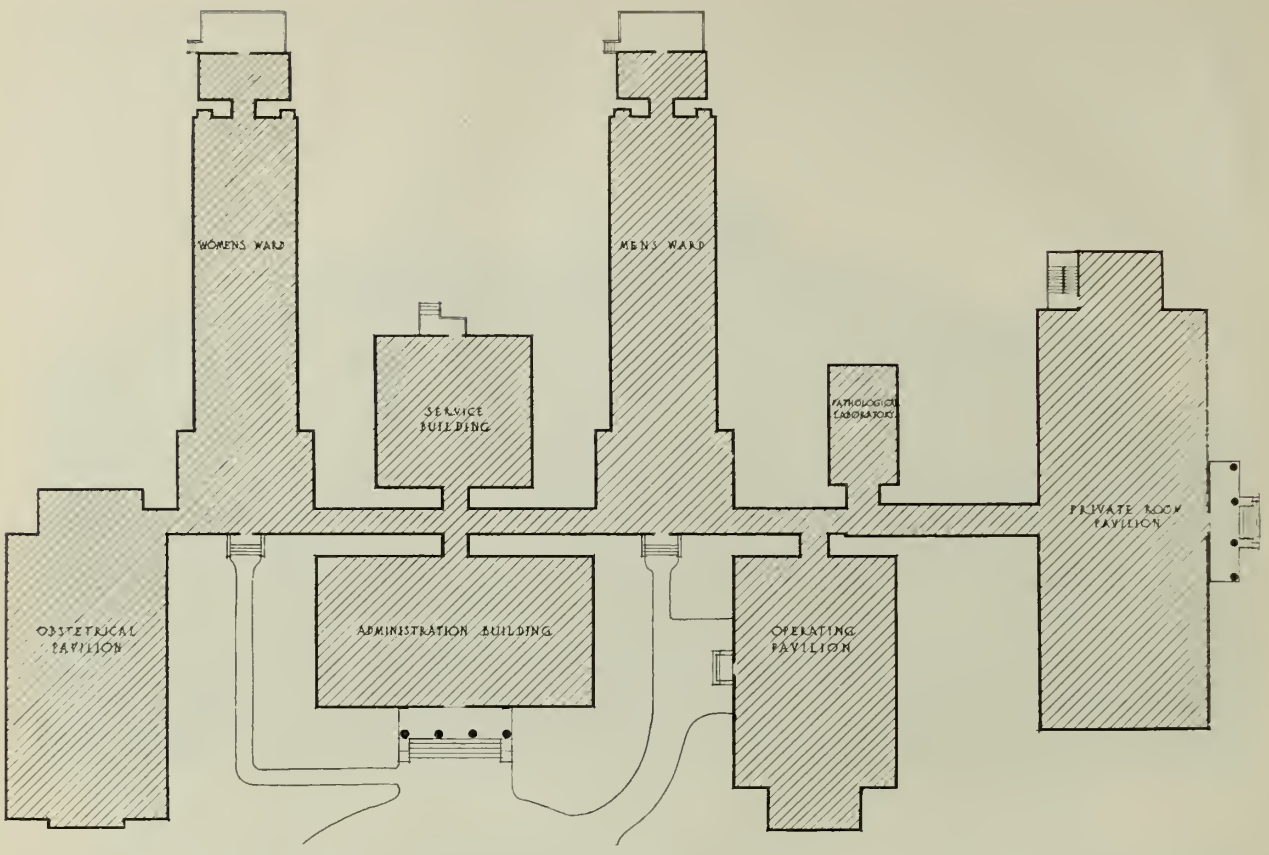

Fig. 4. Muhlenberg Hospital. Block plan.

and baths are of tile, while the floor and base of all corridors are also tile. They are in perfect condition, are easily cleaned, and are most satisfactory. This question of flooring is one of the most vexatious for, and on which there seems to be the most divergence of opinion among, hospital people. We settled it as above, with oak floors, wax finished, in all private rooms. In the wards and old parts of the hospital, where we had North Carolina wood floors to contend with, we covered them with imported battleship linoleum, cemented down over building felt, and I want to testify that our floors are a delight to everyone who is concerned with them.

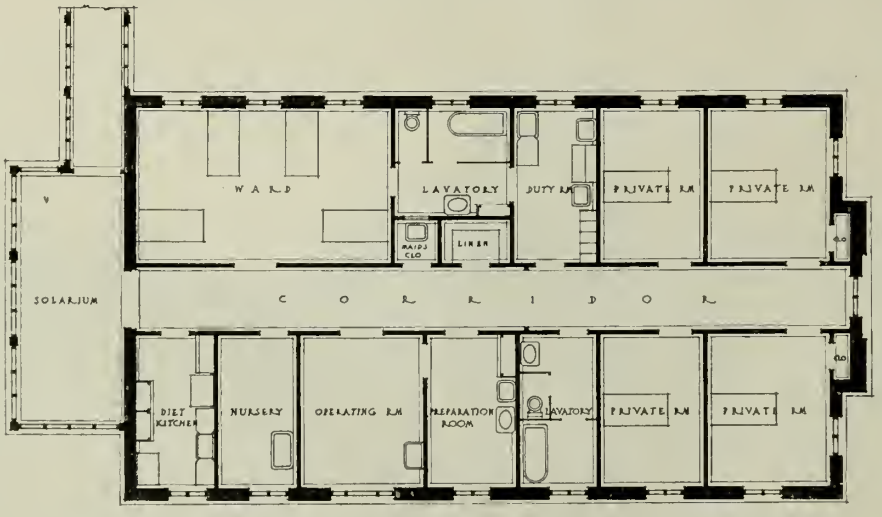

Fig. 5. Muhlenberg Hospital. Closson-Edgerton maternity building. First floor plan.

The trim throughout the new buildings is quartered oak, flat, with rounded corners, and finished with the slightest stain in rubbed oil. It is readily cleaned, and is decidedly attractive in appearance. The walls of rooms and corridors are painted a flat light buff tint, while all the work and utility rooms are painted white and enameled.

The patients' signal system is a light controlled by a push-button on a flexible cord at the patient's hand. The light shows not only over the patient's door, but at the nurses' desk in the hall, in the nurses' duty room, and in the diet kitchen, and in addition to these places, at the desk on each of the other two floors; in this way it is impossible not to reach the nurse, and there is no noise or confusion of ringing bells.

The third floor of the administration building is given up to semiprivate rooms, and every comfort

provided for the private rooms is available here, except that from three to six patients are assigned to the large rooms. There is no slightest suggestion of the public ward about these rooms, and they have an atmosphere of comfort which gives them great demand.

The obstetrical pavilion, which, as noted above, is at the extreme other end of the group from the private room pavilion, is finished in exactly the same manner as the private room pavilion.

The whole scheme of the board of governors in constructing this modern plant of 110 beds was twofold—first, a well-rounded plant, with every modern equipment within our means, for the care of the sick of our community, who could not otherwise have the conveniences necessary for the recovery of their health, and second, the provision of such a high order of accommodations for those who can afford to pay that they would be both attractive and profitable, and thus help carry the burden of those unable to pay. Every effort was made in its design, and every effort is made in its management, that the service of this hospital shall be quiet, efficient, and as nearly homelike as possible, and all classes of patients are constantly showing their appreciation of the efforts in these directions.

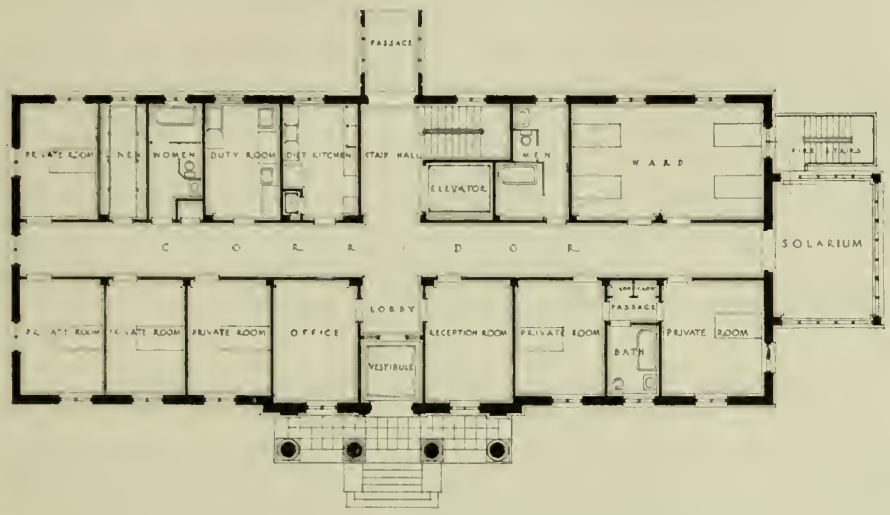

Fig. 6. Muhlenberg Hospital. Private room pavilion. First floor plan.

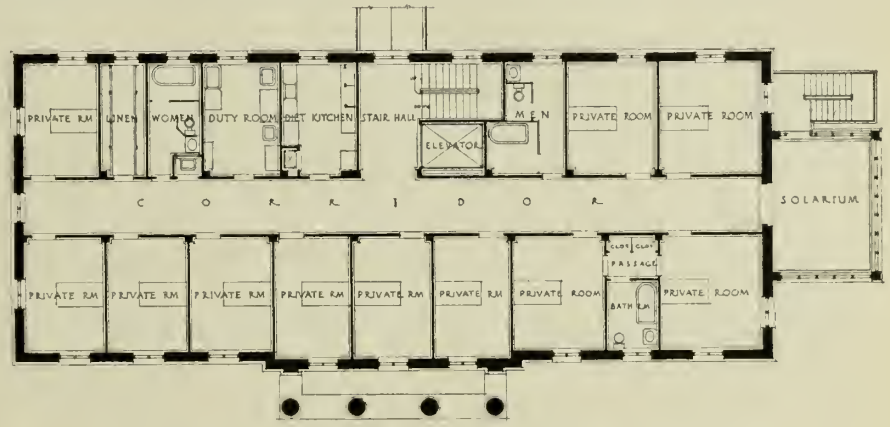

Fig. 7. Muhlenberg Hospital. Private room pavilion. Second floor plan.

Fig. 8. Muhlenberg Hospital. Private room pavilion. Third floor plan.

Of course, no group of buildings can be thrown together and then left to manage themselves and be called a success as a hospital, and Muhlenberg has always been particularly fortunate in having a board of governors of the highest order, who have been imbued with the love of service and have spared neither time, money, nor effort to bring the hospital to the highest possible state of efficiency. While there may have been limitations of opportunity and of finances, there never was a time when this standard was not held high.

During the interim between the monthly meetings of the board, its powers are vested in an executive committee, which meets every two weeks and divides its labors into such subcommittees as committee on physicians, laboratory, dispensary, ambulance, buildings and grounds, housekeeping, and bills and supplies. This results in keeping the various members in close touch with the work of the institution, and I venture the assertion that there are few hospitals where the governors have a more intimate acquaintance with the actual physical property, or of the needs of

the work, than may be found in Muhlenberg Hospital.

Under the executive committee the superintendent has entire charge of the institution, except in matters pertaining to "the medical care of patients." The personnel of this committee is continued, with slight changes, from year to year, so that there is always a preponderance of the "old guard" on duty, having in mind not only the policy of the board, but a knowledge of the mistakes and failures, as well as the successes, of past years to guide them, while at the same time there is coming on enough new blood to take up and carry on the work without a break. That this method spells success we are prone to believe from the results obtained.

Those of us who have been connected with any department of hospital work for any length of time, whether medical or administrative, soon come to appreciate the constant study and research that is necessary to keep up with the ever-changing needs of medical and surgical work, and that Muhlenberg has no regrets after two years of occupancy of its new plant we attribute to the painstaking care in using the knowledge gained by years of study of our particular problems, as well as hospital problems in general, and to the grueling discussion every point had to undergo before adoption. And, then, we were fortunate in having the services, as architects, of Messrs. Crow, Lewis & Wickenhoefer, whose knowledge of hospital requirements was extensive, and whose patience in working up plans with the committee was never exhausted.

SUCCESSFUL MEDICAL TREATMENT IN CHRONIC ALCOHOLISM

An Outline of Practical Procedure as Developed in the Work of a Hospital for Drug and Alcoholic Addiction—Necessity of Intelligent Sociology in Solving the Alcoholic Problem

By CHARLES B. TOWNS, Charles B. Towns Hospital, New York

THE editor of THE MODERN HOSPITAL has asked me to outline to the readers of this publication the medical treatment and care of the alcoholic as carried out in the Charles B. Towns Hospital for Drug and Alcoholic Addiction, and this I very gladly do.

As stated in the previous article, which appeared in the December number of this publication, the alcoholic is the most abused and neglected of sick patients. The state and municipal authorities have never given alcoholics proper classification, proper medical treatment, or rational sanative care, and for that reason this class of people has become one of the largest responsibilities with which the authorities the country over has to deal. The lack of medical information and social intelligence in dealing with the sick of this class has had appalling results; for not only have state and municipal authorities in courts of law, penal institutions, hospitals, and insane asylums been wholly at sea in this matter, but organized charities and social service workers the country over have been wholly unable to deal with it intelligently. I reiterate here the statement which I made in the previous article with respect to the treatment of the alcoholic—that until alcoholic patients are properly classified and subsequently receive definite medical treatment for alcoholism, no intelligent accounting can be made for the patient either as to his or her physical or mental condition. Nor can any possible good come out of the usual methods resorted to, such as deprivation, penalization, the laying of fines, the humiliation of being lectured from the bench by some magistrate, and so on to the foolishly futile end. On the other hand, if this work were taken up from its beginning as it should be and intelligently worked out, the beneficent influences of such a course would be felt practically in every walk and station of life.

While I do not belong, and never expect to belong, to any humanitarian society or any prohibition organization, I here put myself on record as saying that I think that society, in one way or another, is wholly to blame for this alcoholic problem, and that it is directly responsible to those unfortunates who for any reason lose control of themselves from the use of alcoholic stimulants. Instead of treating them as sick people and doing something definite to help them, the treatment accorded to them at the present time is merely making them lifelong burdens to themselves and to the social body. I hope in this article to put those institutions that have to do with this type of patient, either receiving hospitals or institutions that undertake the permanent care of the mentally incompetent with alcoholic history, in the best possible way to deal with the medical and sociological problems involved in this momentous business. The institution's action and influence in this matter is going to have greater effect in bringing this work up to a scientific, medical efficiency point than any other single agency; and,

on account of the peculiar and even intimate relationship of this publication to the heads of such institutions, I am sure the columns of THE MODERN HOSPITAL are the most natural place for me to discuss the matter.

One of the most difficult tasks in my work has been that of educating the medical profession up to the point of seeing the difference between the hopeless attempt to get favorable results in dealing with the alcoholic through deprivation or through "tiding him over" temporarily by the use of sedatives, on the one hand, and, on the other, of dealing with him by definite medical methods that get definite medical results in an approximately definite time and that definitely renovate the patient, as it were, and effect a positive unpoisoning of his physical organism. The medical profession has not, as a whole, realized its great responsibility for not being able to classify these patients, nor has it, as a whole, appreciated the fact that the alcoholic cannot be arbitrarily deprived of his alcoholic stimulants without the doctor having to deal with delirium tremens and being required to handle all the unfavorable conditions that accompany such an attack.

Medical treatment of a definite sort is absolutely required. It has been, and it still is, a struggle to get the physician to understand that deprivation never removes the cause of alcoholism, or the desire or craving for stimulants. The alcoholic has a fair chance to make good only after he has been perfectly freed from the accumulated toxic effects of his stimulants, and the physical and mental craving for his poison has been perfectly eliminated. Unless these results are attained, delirium tremens and the other unfavorable conditions that may come simply out of deprivation, and be due to that alone, cannot be avoided. Many things which I said in the previous article in connection with this subject might prove of benefit if repeated. I hope every reader of THE MODERN HOSPITAL will read the previous article, if he has not already done so, and that will prepare him for what is coming now.

Arriving at a definite medical treatment for the alcoholic has been very interesting to me in this work. When I took up the work in 1901, it was for the treatment of drug habits exclusively. But early in the work I happened to have a male patient who had been drinking heavily, besides taking morphin. I found that when he had completed the medical treatment, he didn't crave either his morphin or his alcohol. Here was something new—and I followed it up to see if it were true. My next step was to secure a confirmed alcoholic and treat him. I found, after two or three days of definite medical treatment, that the man was perfectly freed from the effects of his alcohol. This was the beginning of my study of the alcoholic. It led me into the study of why the alcoholic developed delirium tremens, why permanent mental lesion was in most cases the result, and why permanent insanity was to be reckoned with in the end. Then I found, by use of the definite medical methods which I had evolved, that it made no difference how much alcoholic stimulant the patient may have been taking. Under the medical treatment which I shall presently outline, the patient would not develop delirium tremens, and there would be no alcoholic lesion with which to deal. This means that carrying out this work as I have been doing has eliminated the hazard of alcoholic insanity, and we all know that the chronic alcoholic has been the chief source of population of the asylums for the insane. So, then, the hazard of alcoholic insanity can positively be eliminated by carrying out my suggestions. And so far as the hazard of death is concerned, it should be interesting for the reader to know that for the first twelve years of this work, during which the number of alcoholics treated, from every angle and in every state of inebriety, had run into many thousands (being a *hospital*, we received this type of patient in any condition in which he might be brought to us), we did not have a single death.

I found in my early investigations in this matter that, in treating alcoholism, we had to deal with the narcotic effect of alcohol and not its stimulating effect. The definite treatment which we carried out is based on this medical formula:

	Gm. or c.c.
℞—Tincture belladonna.....	62.0 or fl℥ ij
Fluidextract xanthoxylum....	
Fluidextract hyoscyamus...aā	31.0 or fl℥ j

We administered the above mixture hourly by the mouth in capsule, beginning with a minimum dosage of 6 drops. The dose is increased or decreased according to individual tolerance, and, as the action of belladonna can be easily noted by the extremely dilated pupil, dryness of the throat, and flushing of the skin, with ordinary thought and care, in the short interval of administration, there is never any necessity for bringing about extreme physiological action of this drug—that is, delirium.

The physician who is not thoroughly familiar with the alcoholic would find it most difficult to differentiate between alcoholic delirium and belladonna delirium. He may distinguish between them by the fact that alcoholic delirium is always preceded by extreme tremor, while belladonna de-

lirium is not. It would be easy in a chronic alcoholic to have a combination of the two conditions to deal with, and it would be very difficult for the inexperienced physician to diagnose such a condition intelligently.

The length of time over which this belladonna mixture is continued depends entirely on the individual patient, but it is given continuously and unremittingly, day and night, until we get a complete and perfect bowel elimination. We find that when we have a certain characteristic of elimination—a dark, thick, green mucous stool—there is a complete and definite physical change established. When this is followed up by a dose of castor oil, we have only to resort to temporary stimulation of the patient with a moderate amount of strychnin or some similar stimulant, possibly the giving of a stomachic of rhubarb, sodium, and capsicum, the careful supervision of diet for a few days, and within the period of a week, unless the case is one of old chronic standing and horribly depleted physically, we realize a definite medical result. The patient is unpoisoned and is physiologically free of his former craving.

Immediately on the admission of an alcoholic to the hospital, we first ascertain whether we have a case of chronic alcoholism. If we have, we immediately put the patient to sleep, for we have found that no patient can sleep and have delirium tremens. It makes no difference how long a period he may have been drunk, we do not deprive him immediately of the alcoholic stimulant he has been taking. We alternate with his alcohol a sedative, which is composed of

℞—Alcohol .....8 percent

Each fluidounce represents

	Gm. or c.c.		
Chloral hydrate.....	1.5	or	gr. xxiiss
Tincture hyoscyamus.....	3.0	or	♏ xlv
Tincture ginger	1.0	or	♏ xv
Tincture capsicum	0.25	or	♏ iii¾
Water..sufficient to make	31.0	or	fℨ j

We repeat this sedative at reasonable intervals until we are able to produce sleep, avoiding, of course, the bringing about of any unfavorable condition; but this we are not very likely to get, giving the treatment as advised. We use catharsis very freely in our treatment here. We employ the compound cathartic pill, U. S. P. standard, with blue mass; and we give from 2 to 5 pills, with 5 to 10 grains of blue mass, at intervals of from fifteen to twenty hours the first two or three days, as may be indicated in our study of the case. In giving the belladonna mixture, you may be sure that you will neither produce any unfavorable intestinal irritation nor get any cumulative action of the belladonna. No patient who comes to us full of alcohol need experience any of the results growing out of arbitrary deprivation.

There is a considerable amount of important detail in the administration of the treatment, to give which in full here would take up rather more space than I feel should be asked of the editor. I very strongly urge those who wish to take up this treatment to let me hear from them, and I shall be more than glad to take up the whole matter with them in the most explicit way.

After-treatment is all-important with these cases, but I can only touch on it here and then go on. Most of these patients profit by hard physical exercise under the direction of physical trainers who make a business of such exercise; but they should never be colonized in sanatoriums, either after or before treatment. We have found that a week or two of the proper application of hydrotherapy, electricity, and massage and electricity puts the patient in the best possible condition to be dealt with. Get him "into shape" physically, and you will then be able to get a definite line on both the physical and mental man. We have realized this so keenly in our work here that I have lately established a physiologic department which is as complete as expert medical advice and modern mechanical and electrical invention can make it. We see the good effects of it already in the improved condition in which patients leave the hospital after taking a thorough course of physiologic therapeutics.

Now, in the city hospitals with which I am familiar no alcoholic stimulant is administered to the alcoholic patient; and, if there were, thousands of persons unable to get a drink by other means would enter the hospital, knowing that alcohol would be administered. The hospitals now simply let the patient take the medical consequences rather than administer alcoholic stimulant.

Great care must be observed in treating chronic alcoholics, for we have found that, even after definite medical treatment has been inaugurated, delirium tremens may develop unless the patient is closely guarded and sufficiently stimulated, and unless proper sleep has been brought about by the use of hypnotics. It will interest the reader to know that, in my observation of this type of patient, delirium tremens develops in the afternoon and evening—never in the morning. If you are familiar with the tremor preceding delirium tremens and will resort to the use of the sedative and alcohol alternately, you are bound to prevent such a development.

But the city hospital physician and the prac-

ticing physician who treats this type of patient in private practice have each an entirely different problem to handle in his treatment of delirium tremens. I realize the hazard of even suggesting medication under the circumstances, for I know that, with few exceptions, although the wards of the city hospitals are under the charge of some one physician regularly, there is a constant change of visiting physicians, and consequently there is established no standard medical treatment; nor can there be any. The visiting physician, in most instances, has his own idea about treating such cases, and under most present conditions his idea is an extremely unfavorable one. All hospitals of any importance would profit by having some salaried resident physician who could devote his entire time and attention to the alcoholic ward. Dealing with delirium tremens requires care and constant supervision. No physician treating these cases can, under any circumstances, afford to give any "S O S" order. No man objects to the use of physical restraint in a case of delirium tremens more than I, and in my opinion it shows medical ignorance and cowardice when it is done. Unless there is some serious heart condition present, or unless pneumonia develops in connection with such cases, medical measures should invariably be resorted to; and you cannot make any progress in helping such a patient until you have produced sleep.

After delirium tremens has developed, the usual giving of hypnotics becomes dangerous at once; for if, under the circumstances, you get cumulative action of such hypnotics, then your patient dies from depression. Where the physical condition is favorable, you will find that a moderate amount of hypnotics and a combination of 1-10 grain of apomorphin, 1-30 of strychnin, and 1-150 of hyoscin, hypodermically, will immediately bring about a reaction. Then, with care in the employment of stimulants and sedatives—and maybe this hypodermic will have to be repeated in thirty minutes to an hour—you are bound to bring about sleep. And remember, sleep the patient must have. Bear that in mind always.

Extreme care should be taken to see that the patient is functionating properly, both by the bowels and the kidneys. See that he gets light food, to be eaten just as hot as the patient can eat it. As soon as he is able to begin definite medical treatment, take this up. If necessary, begin the treatment at night, and see positively that the patient sleeps. If, when you have completed your medical treatment, the patient has developed any hallucination at all, you must then resort to the use of ergot, giving the compound tincture in the usual dosage. You will find that it will be only a few days before the condition clears up perfectly. I have never had a case come to me—whether a chronic alcoholic, whether brought in with delirium tremens, or after passing through delirium tremens, or whether the case was one of wet brain following delirium tremens—that did not, after definite medical treatment, followed by ergot for a few days, without a single exception, clear up perfectly.

I have had a number of medical men in my employ—some who have served as long as fifteen years in state insane hospitals. These men, until they became thoroughly accustomed to the results we have been able to get here in these cases, would insist that a case of wet brain meant an insane patient, that he should be committed to some institution and that he was ineligible for medical treatment.

So my experiences in dealing with this alcoholic problem cover a broad field and they plough deep; and they enable me to make some very broad, positive statements as to what to do for the alcoholic and as to the definite results that can be obtained for him in medical treatment by the plan I have developed in my hospital work.

Now, the sociological side of this alcoholic problem is just as important as the medical side; yet it might be unwise to take up this phase of the work in this article. But, in view of the importance of this phase of the alcoholic problem, I am sure THE MODERN HOSPITAL would be glad to have a further article as to the after-treatment and care of the alcoholic, taking up the physical and the mental hazard in leaving him high and dry, and the sociological enormity of not disposing of him in some definite way.

I hope to see the time when each one of our big hospitals will have an alcoholic clearing house—not an alcoholic boarding house. When this work is taken up in this positive, definite way, the authorities are going to dispose finally of the alcoholic in one way or another. They should help the man worth while. They should do something definite for him. A sociological department should see that such a man either gets back his old job after his treatment is completed, or that some other employment is provided for him. If the man is physically able to work and won't work, he should be made to work by the state and municipal authorities. But those patients with underlying physical disabilities should have other treatment and care, as may be indicated. No definite medical treatment or care can be carried out and proper medical results had under any other conditions.

There are more fatalities in alcoholic wards from alcoholic delirium in pneumonia than from pneumonia itself. Unless physicians have a thorough and perfect knowledge of dealing with the alcoholic, ninety-nine chronic alcoholic patients who develop pneumonia will die of delirium tremens if they do not die of pneumonia. To organize this work as it should be organized would lessen the usual number of such cases in these institutions about 75 percent.

The amount of space now devoted to the housing of the patients and the immense amount of time and care involved in caring for them—yet not helping them—would be more than sufficient to carry out the work in a definite way and get some results worth while. For the first time in hospital history, progress would be made in dealing with this type of sick man. The state and municipal authorities must assume responsibility in dealing with this problem, and it is for the superintendents of institutions that have to do with this type of patient to outline to their directing boards where their responsibility begins and ends.

To sum up, the situation as far as we have gone means this—that no alcoholic has a fair chance when he is simply sobered up. Unless something medically definite is done for the chronic alcoholic, his end is either the madhouse or the morgue. Employment should be provided for the man who wants to work, but remember here that no man is going to work unless he profits by his work. We cannot expect much from this type of sick man unless something intelligently definite is done to put him squarely on his feet. At the present time alcoholism is treated as a disgrace. The alcoholic is humiliated, punished, and still further degraded, and society is doing everything it possibly can to destroy him utterly. This is all wrong.

To those who may read this article and would then like further information as to the handling of this type of patient, I may say that it will give me great pleasure to answer their inquiries freely and to advise and assist them in any way I can to solve this serious problem for the benefit of those concerned.

ST. JOSEPH'S HOSPITAL, KANSAS CITY, MO.

New Block Type Institution in Italian Style, With All Modern Conveniences, Takes Place of Older Hospital—Some of the Details of Construction

By J. D. GRIFFITH, M. D., Chief of Staff

THE contract for St. Joseph's Hospital, to be built for the Sisters of St. Joseph, was let August 24, the ground broken September 1, and the corner stone laid December 19, 1915. The new hospital is now being erected on that high tract of land so familiar to most Kansas Cityans, bounded by Prospect avenue, Linwood Boulevard, Wabash avenue, and Thirty-first street, which property was purchased by the Sisters of St. Joseph on October 7,.1909. The selection of that site in a fashionable, centrally located neighborhood pays high tribute to the foresight of the sisters, who have shown every evidence of being awake to Kansas City's needs. This new location, on one of the city's finest boulevards, besides being away from the noise and dirt of the downtown district, will be located more centrally with reference to the homes of the patients, and will be in closer proximity to the homes of the many physicians who attend the patients.

The two buildings provided for and now in the course of construction are the hospital proper and the power plant. The hospital building is of the Italian style of architecture, with a strict adherence to the architectural details of the Italian renaissance. The outside walls are of dark-red tapestry bricks, having mat surfaces, with terra cotta columns, cornice, and trimming. The terra cotta is smooth surfaced, of a light-colored warm buff, having a slight pink tinge. Much attention has been given to the details of the terra cotta, models having been made for and approved by the architects before a single piece was placed in the kiins.

A spacious front entrance porch, with broad, easy steps, is provided for, to be located at the center and to face Linwood Boulevard. The porch, together with the landings, steps, etc., are of Phenix cut stone, and the two landings each contain a large panel of "Heatherbrown" tile.

The hospital building is made up of a central section (133 by 48 feet) running east and west, with four wings, each 83 feet long by 36 feet wide, one pointing to the northeast, another to the southeast, another to the southwest, and another to the northwest. These five sections will present a ground plan similar to a huge letter "X."

There is an 8-foot-6-inch basement story, an 11-foot-6-inch ground story, a 13-foot-6-inch first story, a 12-foot-6-inch second story, twelve-foot third, fourth, and fifth stories, an 11-foot-10-inch sixth story, and an attic story 8 feet in height.

The finished building will be seven stories above the ground, and will rise 96 feet above the ground floor line. The building is given the shape of a letter "X," so that the two wings at the northeast and southeast corners will have their corridors radiating from a single point, where will be located a single booth in plain view of every patient's door in that half of that particular story. A similar booth will take care of the west half of the same story, and this same scheme is carried out on each of the upper six stories, making twelve booths in all. The peculiar shape of the building will also tend to give an equal distribution of light and ventilation in all the rooms, each room being an outside room.

Ample corridors run through the center of the central section of the building and also the full length of the wings. At the outer end of each wing, and for each story above the ground floor, will be a sun porch, 14 by 35½ feet. These will in a very convenient manner provide fresh air and sunlight for convalescing patients. On the ground floor and at the extreme end of the northwest wing will be an extension 30 by 35 feet, to be used as part of the main kitchen.

St. Joseph's Hospital. South elevation.

On the ground floor will be located the lecture and assembly room, with its stage, the sisters' dining room, main kitchen, men help's dining room, waiting rooms, office, drug store, chapel, morgue, clinic examination rooms, domestic science room, linen room, record storage room, vapor room, electrotherapy room, hydrotherapy room, men's lounging and smoking room (36 by 32 feet), and other rooms of lesser importance. The first story will contain the undergraduate nurses' dining room, bandage room, men's dining room, doctors' room, a number of reception rooms, a temporary chapel (46 by 36 feet), and a number of patients' rooms with private baths. On the ground floor is the sisters' community room, bandage room, and patients' rooms with private baths. The third, fourth, and fifth stories each have a bandage room and many rooms for patients. On the sixth floor is located a large operating room, with a spacious amphitheater, three other operation rooms, an x-ray room, etherizing room, bandage room, delivery room for maternity cases, emergency room, electrotherapeutic room, plaster room, patients' rooms, and others of lesser importance. There are diet kitchens, fever rooms, storage rooms, linen rooms, baths, toilets, etc., distributed throughout the building.

The power plant (81 by 42 feet), which is to be two stories in height, will contain a fully equipped modern steam laundry, an electric lighting plant, steam heating plant, and a refrigeration system which, besides supplying the hospital with ice for all uses, will supply refrigeration for the various refrigerators, fever rooms, morgue, etc. The new building provides space for 250 beds, whereas the present hospital at Seventh and Penn streets has room for only 95 beds.

The architects apparently have left no stone unturned in their search for modern conveniences and all that goes to make a thoroughly up-to-date hospital according to the latest developments in hospital practice. First of all, an all-fireproof building was necessary, with an isolated power house, which removes the principal source of fire from the building. The isolated power house also means that the gases, noise, and vibrations usually found in such plants will be far removed from the hospital building. The two buildings are to be connected by a pipe tunnel. Other features are operating rooms lined with glass; bandage rooms on each floor, where sterilized water, bandages, etc., are accessible for simple cases not requiring the use of an operating room; a maternity section, which is entirely separated from the rest

of the floor by division walls, having rooms for the care of babies, where the temperature is under perfect control; a plaster room, where all plaster casts are applied; and a lead-lined x-ray room, where the operator is inclosed in a lead booth and looks through a window made of a composition of glass and lead. Another feature, and perhaps one of the best, is the fact that there are three separate stairways, each separated from the rest of the building by steel and wire-glass partitions and doors. These are in addition to the two outside fire escapes.

There are to be two passenger elevators, and provision is made for a future push-button elevator for the exclusive use of the sisters and nurses. The direct heating system is to be applied through steam radiators, and there is to be an exhaust system of ventilation. Every window is to have a sash ventilator, weather strips, screens, etc. The central wing corridor on the first floor is to have a marble floor, all other corridors are to have composition cork tile floors to deaden the sound of walking, and there will be marble bases and plinths. All toilet and bath rooms are to have tile flooring and wainscot.

There are to be four fever rooms, cooled by refrigeration, and to be insulated with cork insulation in floors, walls, and ceilings, and provision is made for more fever rooms as they are needed. The building is to be equipped throughout with a pneumatic cleaning system, and all exposed plumbing, faucets, etc., are to be "red metal," a new composition which has recently come into use for the better class of plumbing.

There will be a telephone in each patient's room, and the patient will press a button to get the connection with the attendant in the signal booth, who can pass on the advisability of a telephone conversation. The attendant in the booth may then make the connection to the house switchboard. A patient can signal to the attendant in the booth by pushing a button, which also lights a red light just outside of the patient's door, and which may be seen by a nurse passing through the corridor. The rooms will also be equipped with electric plugs for extra lighting, electric heaters, etc. The signal booths are both ornamental and roomy, and are used for various other purposes, such as the keeping of records, doctors' calls, etc. The sisters now have under consideration a doctors' paging system, which calls the doctors in a soft, audible voice.

The present plans call for only the two buildings mentioned above, but at some future date it is planned to build a head house for the sisters' home, to be located a short distance north of the center of the hospital building, and to have these two buildings connected by a colonnade. At a point on the west side of the premises and directly opposite the power house is to be a nurses' home at some future date, when the nurses' home and the power house will be connected with the head house by means of colonnades. At some future time it is planned to build a chapel immediately north of the head house.

St. Joseph's Hospital was first opened October 15, 1874, being the first hospital in Kansas City, or this part of Missouri, and one of the first few in the Middle West. At the beginning it was conducted in a comparatively small building, which had been a residence on the site of the present hospital at Seventh and Penn streets. The residence had six large rooms, two or three small rooms, a large bath room, and an isolated kitchen. When the residence was converted into a hospital, the reception room and the parlor, having folding doors between, were used as the wards, and the two or three small rooms at the back of the first story were used as living rooms for the sisters. The chapel was located at the back, on the second floor, over the sisters' quarters, and the bath room was used as an operating room. New buildings and additions were built at later dates. Sister Romana, who has been connected with this institution for eighteen years, is now the mother superior.

County Hospitals of California Condemned

The county hospitals of California were emphatically and sweepingly condemned at the hearing of the State Social Insurance Commission in November. Rabbi Martin A. Meyer, for six years a member of the California State Board of Charities and Correction, said that the average patient in a California county institution receives poor housing, poor nursing, poor treatment, and coarse food; $3,000,000 yearly are spent—and spent badly—on such institutions. The "constructive policy" of such institution, Dr. Meyer is quoted as saying, "usually consists of the patient being hustled out as fast as possible, unless he should happen to be a voter and the head of the institution considers it desirable to hold him a little longer. There are one or two institutions, however, that hold the patients interminably on account of a system by which the superintendent is paid so much board by each patient." As far as cure is concerned, "county hospitals are satisfied if they don't kill a man; if the patient is hustled out alive, they are doing very well."

Progress has been made by the Nurses' Alumni Association of the Battle Creek Sanitarium and Hospital in its effort to establish a sick benefit fund, the immediate goal being $1,000. Recently a bazar for the sale of Christmas articles was held, and about $250 was realized, making a total of about $700. There has been a delay in reaching this figure because some money has already been spent in worthy cases of sickness and misfortune. So that current expenses may be met out of ordinary revenue, the annual dues were recently increased from $1 a year to $2, with the proviso that new members should pay the smaller sum for the first year.

SOME FACTS AND FALLACIES OF STERILIZATION

No Mystery About the Principles Involved in Killing Bacteria—Plain Laws of Physics Rule—What Pasteur Discovered—Dry Heat Versus Boiling Water—Steam—The Vacuum—The Steam Jacket

By A. WAYNE CLARK, Bacteriologist, Johnson & Johnson, New Brunswick, N. J.

THERE seem to be many hazy ideas and a good deal of misunderstanding about steam sterilization current among the hospitals, and there appears to be a sort of amusing competition among some of them as to which kills the germs the "deadest." The nurses go around from one hospital to another and carry the operating room gossip. Some one told the writer once that they were great on sterilization at the Blank Hospital and always sterilized for two hours. Now, as it actually takes about one minute to kill the hardiest germs at 250° F. or 15 pounds steam, it seems an unnecessary margin of safety to allow 119 minutes more. That kind of competition sounds about as reasonable as to claim that you can kill a cat more completely with a 16-inch shell than with a rifle bullet.

Also, there is a good deal of talk being passed around about fractional sterilization, and the words "dry sterilization" are used sometimes. Now, let us discuss this sterilization business and go right back to first principles.

The workers in bacteriology previous to Pasteur sometimes produced sterility of culture fluids when they boiled them, and at other times failed to do so. It took the master mind of Pasteur some time to unravel this mystery. The reason was that some species of bacteria under certain conditions contain spores, whereas others do not. Spores are a peculiar nucleus or seed form of some bacilli, and, when they assume this spore condition, they are very hard to kill; in fact, a few of the harmless air germs form spores that are not killed by boiling in water for a minute or two—that is the whole trouble. Hence Pasteur found that boiling did sterilize about half of the time because half of the time none of these hardy air germs happened to be present in the spore condition. The bacteriologists following Pasteur found that the way to kill all germs in a culture fluid was to bring it to a boil the day it was made, which killed everything but a few hardy spores. Then let the fluid stand in a warm place until the next day, during which time these spores will change into the vegetative or ordinary stage of bacterial existence, and then by bringing again to a boil you can kill them. This is generally done once more on the third day, so as to kill any that might not have developed during the first twenty-four hours. That is the real science of fractional sterilization as opposed to

THE FALLACY OF FRACTIONAL STERILIZATION

as practiced by some hospitals, discussed by many surgeons, and argued about generally by hospital people. Those who have read the above ought to be able to understand that there is no such thing as fractional sterilization of a dry material like gauze or catgut, because the spores cannot develop in anything but a culture fluid. Fractional sterilization is a big phrase and sounds well, but it has no business outside of a bacteriological laboratory. Repeated high-temperature heating is not fractional sterilization, and, moreover, the former itself is a fallacy. The only excuse the writer ever heard for repeated high-temperature heating was that the germs could be killed by repeated blows applied a day apart. This was said in sober earnestness, but it seemed to the writer like a joke, and he felt like saying, and with good reason, that if we are to be compelled to compare killing germs to a prize fight, then why can't you do it better by keeping right on hammering the germs while you have them down instead of waiting twenty-four hours between blows for them to recover?

There are three ways of sterilizing by heat, and all are available for some purposes for surgery. They are:

1. Dry Heat Sterilization.—By this is meant sterilization by dry air, using no water or steam. This is useful when no steam outfit of any kind is obtainable, as ovens at homes in maternity or accident cases. It is necessary to expose the materials to a temperature of 330° to 350° F. for half an hour at least, as dry air does not penetrate well; so, if even a small package of dressings were heated to 350° F., it would not be likely to get much above 330 inside in half an hour. This method is not commended for the reason given, and almost any kind of steam boiler is better—for example, a wash boiler; also, a sufficiently high temperature in dry air to secure sterility practically always scorches or ruins cotton goods.

2. Sterilization by Boiling in Water.—This is the general method today in hospitals for the sterilization of metal instruments, glass ligature tubes, other glass instruments, etc., and by some

for rubber gloves. It is *the* real, good, sure, safe method of sterilizing, with no frills or fuss, no vacuums or patent valves about it. If everything were boiled in water for every surgical operation, there would be a great deal less trouble. Twenty minutes of real boiling is enough. If you feel like playing extra safe, add ten minutes more; not necessary, but, if it makes you feel better, do it.

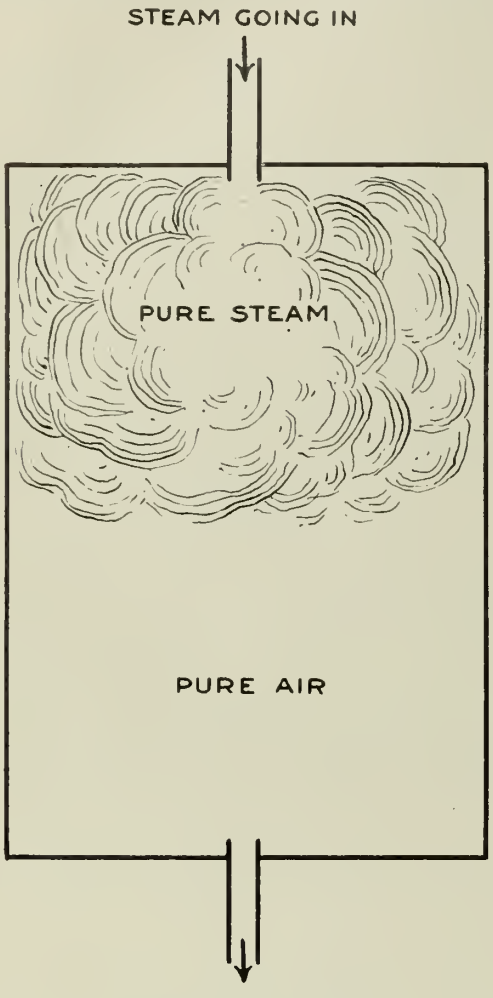

Fig. 1. The right way. Illustrating the correct method of applying steam to a sterilizer in order to drive out the air. Steam entering at the top and air going out at the bottom results in a quick and certain filling of the sterilizer with steam. Steam is lighter than air, and, if it is run in on top of air, will push it out at the bottom opening without mixing with it.

As a matter of fact, fifteen minutes is probably sufficient, and ten is just about on the division line. So, we call it twenty minutes generally, and no one will ever be hurt by anything in a surgical operation that has been boiled twenty minutes.

3. Steam Sterilization.—The open steam sterilizer has very generally been supplanted by the closed pressure sterilizer, and the writer is not so sure that much has been gained thereby. The one great trouble about all kinds of closed sterilizers is that the operators do not understand that they must be sure to blow all the air out of them. Personally, the writer would much rather put his trust in dressings sterilized by one hour of steaming in an ash can or a clothes boiler, with some water in the bottom and placed on the fire, than in the product of some of the fancy, double-jacketed, vacuum pressure machines, simply because operators do not make certain that the air is all out of them. The pressure apparatus has its uses, and has many advantages if properly used, but it is a

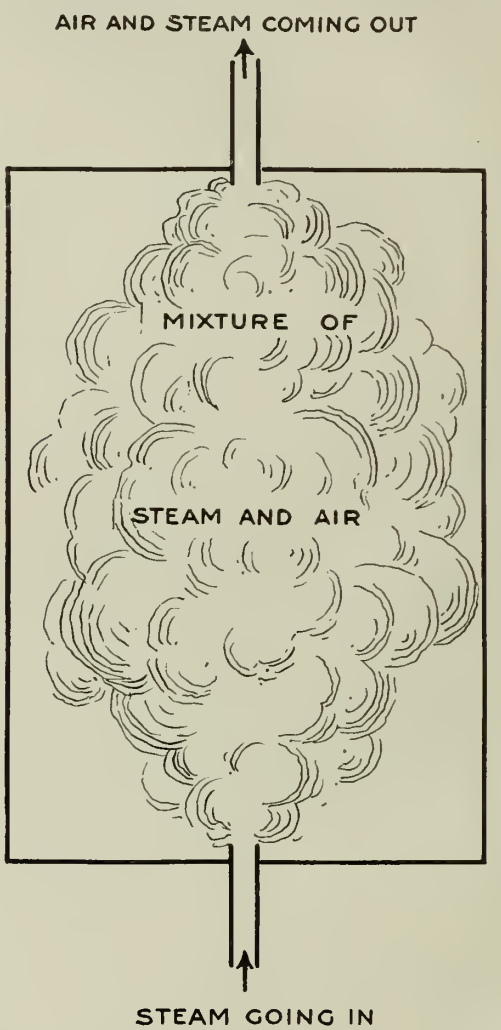

Fig. 2. The wrong way. Illustrating the wrong way to remove air from a steam sterilizer. Steam entering at the bottom will, because it is lighter than air, immediately rise through the air, mix with it, and air and steam will go out at the opening in the top. The result is that this mixture has to be displaced by progressive dilution, which requires a long time, and a great deal of steam is wasted.

delusion and a snare unless you know exactly what you are doing.

You operators of sterilizers, take a look at the apparatus you are using, and figure out for yourselves whether you are sure that you are giving your dressings pure steam at 250° F. Many of you, the writer feels sure, are not doing so, but are getting a mixture of steam and air; or, in other words, are trying to sterilize by air pressure —not steam pressure. You are not sterilizing at all.

A properly arranged sterilizer has the steam in-

let at the top and the air outlet at the bottom, because that is the quick, sure, and easy way to remove the air. Steam is lighter than air, floats on air, and will push it down through a sterilizer just like a plunger, and will not mix with it, provided the steam is admitted on top of the air. Fig. 1 shows the right way, Fig. 2 the wrong way, and Fig. 3 shows the jacketed sterilizer properly piped. Plumbers practically always do it the wrong way, and there seem to be some makers of hospital sterilizers that also try to run counter to the laws of physics. Doing it the other way is not fatal, but simply necessitates a thorough understanding of the law of nature that you must keep on blowing off air and steam until all the air is

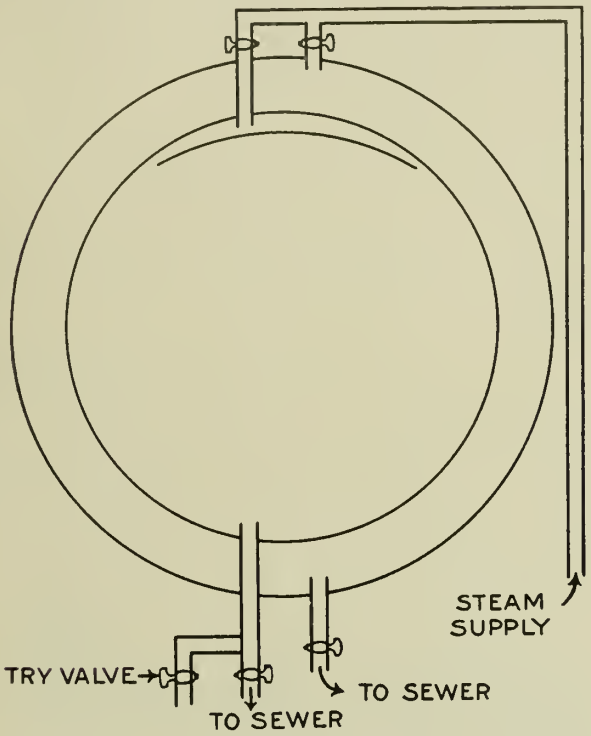

Fig. 3. The right way for piping for a jacketed steam-pressure sterilizer.

out of the apparatus. That may take a half hour or one and a half hours, depending on the steam supply and the size of the sterilizer. To determine about this, there must be a blow-off pipe opening into the room, so you can test it. Unless you are an expert engineer, you cannot tell when the air is all out by looking at the steam streaming out of a pipe. The way to tell is to stick the end of the outlet pipe under water in a basin or pail. If you are getting air mixed with the steam, you will see bubbles rising; if all the air is out, you will see no bubbles, but will hear only the hammering noise of condensing steam. After you have tried this out a few times and found how long it takes to drive all the air out of your sterilizer, you can then add a safe margin for variation and in future runs simply blow off for that length of time. You must do this experimenting anyway, whether your sterilizer is fed from the top or bottom. When it is properly arranged, however, there is a sharp line of division between pure air and pure steam, and this is not the case when the apparatus is constructed in any other way. You will save a great deal of steam and time by having the machine properly arranged.

THE USE OF VACUUM

This subject has purposely been avoided in this discussion up to this point because it introduces a problem not directly entering into the principles involved in sterilization by steam. The production of a partial vacuum previous to turning in the steam into a sterilizer chamber has many obvious advantages where the materials to be sterilized are in tight boxes or wrapped in comparatively air-tight coverings, or more particularly in glass jars or tubes. It is difficult for steam to displace or crowd out air in such containers, so that, if part of the air is taken out first, the theory is that the steam will rush in and fill up the space. This it probably will do, but the writer considers it bad practice to depend too much on it, and it is positively very bad practice to imagine that because you have used a vacuum device you have removed all the air, for you certainly have not. The best steam ejector vacuum devices reduce the atmospheric pressure only 15 to 18 inches, measured on the mercury barometer (most gauges are graduated to correspond to the mercury barometer), out of a possible 28 to 30 inches; in other words, the air is not nearly all out. So, just because you have used a valve on the sterilizer marked "vacuum," do not imagine that you need not blow out the rest of the air after you turn on the steam. With such bundles of dressings wrapped in muslin as are commonly used in hospitals, there is not much advantage in using a vacuum at all, as steam will penetrate well through such packages. It is necessary in any case to allow enough time for penetration through the largest and tightest package in the sterilizer. A registering thermometer, with its bulb buried in such a package, will indicate the degree of penetration. In spite of that remark in the first part of this paper about long-time sterilizing, it is better to allow enough time, not because it takes a long time to kill the bacteria, but because of this question of penetration, the chief trouble about which is displacement of air.

The small sterilizer, using a gas machine for making steam and capable of producing a vacuum of only 6 or 7 inches, is hardly worth considering as a vacuum producer. The vacuum device had better be ignored and the air blown out directly

by steam. On the contrary, where 50 or 60 pounds steam pressure, or preferably even more, is available and a good ejector giving 12 to 15 inches is attached, some good results may be expected.

STEAM JACKETS

It is very questionable whether the demand for *dry* steam sterilized things does not often result in having the things not sterile. The especially destructive action of steam on bacteria is due to the fact that it does wet them. Dry heat or a mixture of steam and air at the temperature used for steam sterilization will not kill. Nevertheless, a steam jacket does prevent excessive condensation, and dressings steamed in a jacketed apparatus should not be soaking wet, which is the purpose of a jacketed or double sterilizer.

In conclusion, the writer strongly suggests that bacteriological culture tests be made from time to time. Those hospitals which have no bacteriological laboratory can easily mail a small package of gauze sponges to an outside laboratory for test. Have at least a half dozen tests made, and the best way to do this is to take some short pieces of cotton tape—say, about an inch or an inch and a half long—and make sure that they are infected with hardy organisms by wiping them on a dusty shelf or on the floor. Fold up a half dozen of these pieces of tape in a pad of gauze, marked in some way to distinguish it, and then pack the pad in the middle of an ordinary package of dressings, put it through your regular process and send the whole package to the laboratory. The bacteriologist can handle small tapes with more certainty and greater ease than he can handle the comparatively large pads, and besides this, if they are treated as described above, you will know that they will be infected to start with.

UNITED STATES NAVAL HOSPITAL ON THE ISLAND OF GUAM

Isolated Wards of Uncle Sam Are Subject to Many Diseases, But Efficient Naval Supervision and Hospital Treatment Are Improving the New Generation

By L. W. JOHNSON, D. D. S., M. D., Passed Assistant Surgeon United States Navy

THE average citizen of the United States is as well informed concerning Guam as he was about the Gallipoli Peninsula before the European War, so a brief preliminary description of the community served by the United States Naval Hospital, Guam, will be of interest.

Guam was ceded to the United States at the close of the Spanish-American War. It is administered by the Navy Department, and has a naval officer for governor. Communication with San Francisco, 5,500 miles east, and Manila, 1,700 miles west, is by army transport, which stops once a month, with passengers, mail, and stores. The island is in the tropical zone, 13 degrees north of the equator, is 30 miles long, and averages 6 miles in width.

The climate is equable and healthful, the average temperature being 81° F., and there is never any such excessive heat as is experienced in any of the large cities of the United States in the summer time. From December to June the northeast trade winds blow, and there is little rain; from June to December the monsoon blows, and this is the rainy season. The effect of these changes is shown in the marked periodicity of certain diseases. Severe typhoons occasionally visit the island, and earthquakes occur about once a week, though seldom severe enough to cause serious damage. The possibility of disastrous typhoons and earthquakes is an important consideration in determining the type of construction suitable for a hospital building.

Natives of Guam are called Chamorros, and number about 13,000. For 300 years they were under Spanish domination, and Spanish ideas and customs are still the predominating influence in their daily life. They are an agricultural people, and nearly every family has a house in one of the towns as well as a ranch in the country. It is customary to sleep in town and go to the ranch to work during the day, even though the going and coming consume half of the working day. A few days of work on the ranch each month is sufficient to produce enough food to support a family, and it is difficult to make them understand the purpose of producing more than enough for immediate needs, since money means little to them. For these reasons it is not easy to find fresh food for sale, or to introduce more efficient methods of farming which would lessen labor or increase crops. Most of the food consumed by Americans is cold storage or canned food brought from the United States. Thus the commissary department presents some of the most difficult problems with which the hospital has to deal.

The lower classes of the natives seldom bathe or wash, and they eat with their hands from a common dish; they defecate promiscuously on their ranches, and a popular dressing for fresh wounds is the manure of the carabao. They fear

the evil spirits, which are abroad at night, and close the houses as tightly as possible to keep them out. Were these habits corrected, there would be little for the native wards of the hospital to do, for the greater part of the sickness among the natives can be traced to the conditions under which they live.

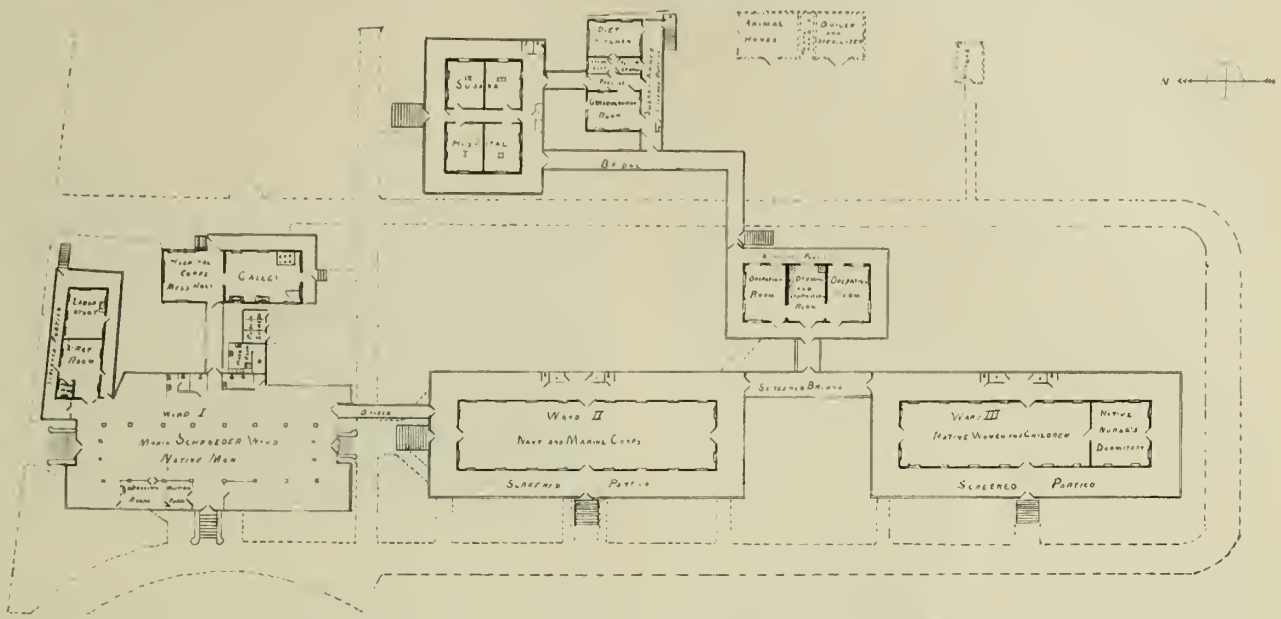

Fig. 1. United States Naval Hospital, Guam. General plot plan. The dotted lines indicate roads.

American occupation of Guam dates from 1898, when Captain Henry Glass, U. S. N., brought the United States ship Charleston into the harbor and opened fire on the ancient fort, which was the sole defense of the place. It is related that the Spanish governor, believing that the Charleston was honoring him by a national salute, went in person to the ship and apologized for his discourtesy in not returning the salute, which he was unable to do because he had no powder. He then learned for the first time that his country was at war with the United States.

Fig. 2. Guam Naval Hospital. Looking south toward the operating pavilion. Susana Hospital at left side.

Sanitary conditions on the island were then very bad, there were many in the advanced stages of leprosy and gangosa, and infection with intestinal parasites was universal and untreated. Since that time efforts to improve sanitation have been continuous, and there has been a great change for the better. Waterworks have been built, and every effort made to provide a year-round supply of water; latrines and baths have been built for public use and the natives instructed in their use; quarantine regulations to prevent the introduction of epidemic disease have been enforced; clinics and dressing stations have been established in the principal towns; gangosa and leprosy have been nearly eliminated, and the active campaign against intestinal parasites has changed the physical aspect of the whole younger generation. An excellent foundation has been laid for future educational and corrective measures, which should still further reduce certain of the more prevalent diseases.

Fig. 3. South end of ward 3. Quarters for native nurses behind screen.

In 1899 sick quarters for the naval personnel and a clinic for native out-patients were established. In 1901 a movement was started to pro-

vide a hospital for natives; land and money were secured, largely by the personal efforts of Mrs. Schroeder, wife of Rear Admiral Seaton Schroeder, who was the governor of Guam at that time. A building was erected, known as the Maria Schroeder Hospital. In 1905 the Susana Hospital Association was founded for the purpose of erecting a hospital for women and children; the largest donation, $10,000, was given by Mrs. Russell Sage. The association was named for the wife of Captain G. L. Dyer, U. S. N., who had been very active in its organization. A plot of land and a building adjacent to the Maria Schroeder Hospital were purchased, and a 4-bed ward and out-patient clinic for women and children established. The staff of each of these hospitals was composed of medical officers of the navy who were stationed in Guam.

In December, 1909, the Susana Hospital was seriously damaged and the Maria Schroeder Hospital somewhat damaged by a severe earthquake,

Fig. 4. A main street in Agana, the capital of Guam. Corn drying on mats in the street.

and sufficient funds for their reconstruction could not be obtained. An arrangement was made with the Navy Department by which the lands and buildings were transferred to the Federal Government and a naval hospital established. The damaged buildings have since been rebuilt, the Maria Schroeder Hospital as a part of and the Susana Hospital closely affiliated with the Naval Hospital. Two more wards and an operating pavilion have been erected, and an addition to the Susana Hospital is now under construction.

The hospital ward buildings are of uniform construction, reinforced concrete for the first floor, which is on the ground level, and wood for the second floor, which is used for hospital purposes. The floors are of native mahogany, which takes a beautiful polish. Each ward is surrounded by a 10-foot screened veranda, and the construction allows as much air circulation as possible; the verandas provide shade for the walks beneath and lessen the heat by protecting the concrete walls from the sun. The wards are connected by covered bridges, which are necessary during the rainy season. Corrugated galvanized iron, covered with tar paint, is used for all roofs.

Ward 1, or the Maria Schroeder Ward, is occupied by native male patients. The inner wall of this ward has been removed, except the uprights necessary for the support of the roof, and, for

Fig. 5. School children receiving hookworm treatment.

protection in case of typhoons, heavy canvas curtains have been rigged inside the wire screening. Since this change has been made, no typhoon has occurred to test the efficiency of these curtains. This ward has a dressing room equipped for minor and emergency surgery. On the ground floor under this ward are the carpenter and plumbing shops, paint locker, and lumber store room. At the northeast angle is a two-story extension, which contains the x-ray room and laboratory, with the native out-patient clinic on the ground level. To the east of the ward is a build-

Fig. 6. Residence of Dr. L. W. Johnson, of the navy, author of this article.

ing containing the galley and the mess hall for the members of the hospital corps, with the commissary store room below. In the space between this ward and the galley are a shower and wash room opening on the ward, and three public showers for the use of natives.

Ward 2 is used for sick enlisted men of the navy and marine corps, and is connected with

ward 1 by a covered bridge. Under this ward, on the ground level, are the dispensary, consulting room, nose and throat room, store rooms, and the Susana pharmacy. The pharmacy provides a place for filling prescriptions for those not entitled to free treatment, and a place where toilet articles, candy, cigars, and other articles can be purchased, something greatly appreciated in this remote

Fig. 7. Transportation in Guam. Carabao express, 2½ miles per hour.

place. Here is the only ice cream soda fountain in Guam, and the natives have taken more kindly to this than to any other innovation of the Americans, with the possible exception of baseball.

Ward 3 is for the care of native women and children. It is connected with ward 2 by a covered and screened bridge. This is the busiest ward in the hospital and the most desirable service, since medical officers of the navy have little opportunity for practice in obstetrics and pediatrics. A strict disciplinarian from a hos-

Fig. 8. Results of gangosa.

pital at home would be scandalized at the appearance of this ward at night; many of the patients then climb out of bed to sleep in real comfort on the floor; every baby has at least one member, sometimes many members, of the family asleep with it in its crib or on the floor under it; a dozen beds may accommodate thirty children of school age, some with night clothes and some without. Under this ward are the dental office, medical store room, and a lock ward for female venereal patients. All natives of Guam are entitled to free treatment in the hospital wards, and those desiring better accommodations or private rooms are cared for in Susana Hospital, where a small charge is made.

The operating pavilion is connected with the bridge between wards 2 and 3. The walls of this building are of reinforced concrete to the roof. On the second floor are two completely equipped operating rooms, with a dressing and sterilizer room between. On the ground floor of this building are the hospital offices.

Susana Hospital is connected with the other buildings by a long covered bridge. It has four private rooms, and there is sufficient space on the veranda to accommodate several patients. Under this building is the linen room. The annex shown

Fig. 9. Active gangosa. Before and after treatment. The scars are the result of yaws—not of gangosa.

on the plan to the south of Susana Hospital is now under construction, and will have a gynecological room and diet kitchen with store rooms below.

The administrative and professional duties are performed by medical officers of the navy, five being on duty here at present. They also act as health officers under the island government, performing such duties as school inspection, port quarantine, and sanitary inspection. A member of the navy dental corps is also stationed here. The nursing is done by a chief nurse and five nurses of the navy nurse corps, and in the male wards by members of the navy hospital corps. There are under training several native girls, who are carefully selected, and some of whom prove to be very intelligent and capable, though others can never comprehend the difference between ½ grain and 12 grains or between a temperature of 101°

and one of 110°. Those who become proficient and survive the two years of training and observation are given licenses as midwives, and do valuable work in that capacity among the natives, besides spreading the doctrine of cleanliness among the people and lessening their inherent distrust of the hospital. All the medical and nursing staff live in rented quarters outside the hospital grounds.

This hospital differs from other hospitals in that it has no bath tub. So far as I know, there are but three bath tubs in Guam. There is no running hot water in the hospital, or in any house that I know of in Guam, and there is electric light only from 6 p. m. to midnight. These seem great hardships to the newcomer, but, so far as results are concerned, they make little difference in the efficiency of the hospital, except for loss of time in an occasional emergency.

Guam offers unusual opportunity for the observation of certain tropical diseases. Gangosa is the most conspicuous of these, and a list prepared shortly after the American occupation showed 6 percent of the inhabitants to have the disease. There are three hypotheses as to its cause—that it is an attenuated form of syphilis, that it is a tertiary form of yaws, that it is a distinct disease in itself. It is difficult to mention gangosa without becoming involved in controversy, so no preference for any of these hypotheses will be expressed here. The disease has yielded so rapidly to treatment with salvarsan, mercury, and iodides that active cases are now rarely seen. A careful watch is kept on all old cases, and they are brought to the hospital occasionally for treatment of any open lesions that may develop. Many lepers were formerly found, but these have been removed to the leper colony at Culion, P. I., sporadic cases still occur. Amebic dysentery was once common, but has almost disappeared since completion of water supplies for the towns. Yaws is very prevalent, and it has been stated that 90 percent of natives have the disease in childhood; most adults bear yaws scars. The most extreme cases yield quickly to treatment by salvarsan, mercury, and iodides. Guha, or epidemic asthma, prevails at certain seasons; this takes the form of a fatal bronchopneumonia in infants, and in others it is quickly relieved by adrenalin. Intestinal parasites are almost universal among the natives, round, whip, and hookworms being most common. The eggs of these are found in the soil under the houses and beneath the finger nails of children. All natives entering the hospital are given worm treatment, and the school children are sent to the hospital in groups of about thirty for the treatment. It is usual for them to gain several pounds in weight and to make much more rapid progress in their studies after being freed from their worms. It is customary to examine the stools of Americans quarterly for eggs of these parasites. Tuberculosis is common in all its forms, and the people seem to have little resistance to it. They are afraid of the night air and the evil spirits which are abroad after dark, so they close their houses as tightly as possible and sleep in crowded rooms, packed together on the floors. The natives say that these evil spirits cannot harm anyone who does not believe in them, so the Americans can leave their houses open at night without fear. A special tuberculosis hospital has been built in an ideal location on a hill nearby, but sufficient funds have never been available for its maintenance as a hospital.

EARLY DISCOVERY OF CANCER

Yearly Medical Examination Urged for Prevention of Disease—Propaganda to Be Started Everywhere

The American Society for the Control of Cancer is strongly seconding the efforts of the National Association for the Study and Prevention of Tuberculosis to have December 6 set apart as "National Medical Examination Day." Among other observances planned for the day at Minneapolis will be an address on cancer by Dr. Harvey R. Gaylord, of Buffalo, director of the New York State Institute for the Study of Malignant Disease. This will constitute part of the observance of the "Health and Happiness Week" arranged by the Minnesota Public Health Association in cooperation with other social and civic organizations.

The rapidly growing movement in favor of an annual medical examination for every person, sick or well, promises much benefit in the reduction of the death rate from cancer as well as that from tuberculosis. Cancer is by no means a hopelessly fatal disease, and undoubtedly many cases of this disease would be recognized in time for treatment in the early stages, when cure is a comparatively simple matter, if people were in the habit of consulting their physicians once a year or even at shorter intervals, and having a general physical examination. Statistics independently gathered by many surgeons prove that the average cancer patient waits a year or more after observing some suspicious condition before seeking the treatment which is then often too late. This disastrous delay is the main, if not the sole, obstacle to the successful treatment of cancer at the present time. All good physicians, however, are familiar with the warning signs of the approach of this dangerous disease, and, if given a chance to examine their patients once a year, especially after the age of 30, they could undoubtedly save many of them from death before their time.

A new general hospital at Van Wert, Ohio, erected and equipped at a cost of approximately $100,000 and presented to Van Wert county by George H. Marsh, a local philanthropist, was formally opened December 5. The building is a substantial structure of three stories and basement, with inclosed sun porches extending from the first and second floors at either end. It has a capacity of 55 beds, and the equipment, which includes a pathological laboratory, is said to be modern throughout.

THE COST OF OPERATING A MOTOR AMBULANCE

Comparison Between Horses, Electrics, and Gasoline Cars—Many Items of Expense Easily Comparable—Final Deductions Indicate Preference for Gasoline—United States Army and Navy Departments Do Not Agree on Types or Costs.

By WALDON FAWCETT, Washington, D. C.

THE increase in the price of gasoline is likely to compel hospital executives to accord a somewhat closer scrutiny than has heretofore been bestowed on the cost of operating a motor ambulance. Gasoline is, of course, only one item of the maintenance charges of the horseless ambulance, but it is one of the most important operating items, if not, indeed, the most important; perchance depreciation of the vehicle is not figured as a part of upkeep. An increase of 100 percent in the gasoline bill of a hospital might not be regarded so seriously if it were but a temporary embarrassment, as in the case of various articles the prices of which have been inflated by war conditions, but the leading authorities are fairly unanimous in the prediction that gasoline prices will never return to the old low levels and that consumers may consider themselves fortunate if there are not further advances.

Up to this time the many advantages, real or seeming, of the motor ambulance over the horse-drawn vehicle have caused hospital authorities and medical officers to frankly ignore any discrepancies either in the first cost or expense of upkeep as between the two types. The achievements of motor ambulances—many of them of American make—in the present European war have proven a strong argument, and so has also the experience of the United States army expedition in Mexico. An official of the surgeon-general's office recently remarked: "We have just brought wounded out of Mexico by motor ambulances, making a run of 307 miles in three days. With the mule-drawn ambulances that trip would have required ten days." That official is converted to the motor ambulance, we might almost say, regardless of cost, and he has his counterpart in the administrator of many a city hospital who esteems the quick getaway of the motor vehicle quite as highly as the army man does its endurance for long runs.

Not only has the superior efficiency of the motor ambulance caused many a person in authority to deliberately shut his eyes to the expense of maintenance, once it was demonstrated that the cost of upkeep was not prohibitive, but an additional influence has been found in the fact that a large proportion of the motor ambulances now in use by public hospitals throughout the United States have been donated by friends of the institutions. Indeed, a motor ambulance has come to rank in recent years as a favorite form of gift for the patron who would perhaps never have thought of bestowing a horse-drawn vehicle, but who deems a motor ambulance quite as practical a contribution as the outfitting of a room or ward.

With first cost thus happily taken care of, some hospital officials are prone to overlook, in figuring upkeep, the items of depreciation and interest on investment. Yet these charges, and especially the first mentioned, are decidedly important details, particularly by reason of the rapid rate of depreciation commonly allotted on automobiles. To appreciate the significance of a proper annual charging off for depreciation, it may be mentioned that the United States Government figures on all its motor cars an annual depreciation of 20 percent, which would give the car a life of five years, and there are experts who go so far as to declare that 35 percent depreciation should be allowed on a car for the first year of service.

Granting that depreciation at not much less than 20 percent per annum and interest on investment at, say, 5 percent should be figured in, along with insurance premiums, as part of the upkeep of a motor ambulance, it follows that the lower first cost of present-day motor ambulances is a boon not to be lightly esteemed. With present prices for motor ambulances ranging down from, say, $2,500 to about $500, it goes without saying that there is a marked difference in all the above items as compared with the situation when practically the only motor ambulances in the market were the electric vehicles and the "steamers," each of which types cost in the neighborhood of $4,500.

Incidentally it may be noted that the change in practice from the electrically driven ambulance to the gasoline car has had important bearing on the "overhead" for this feature of hospital equipment. Formerly the electric ambulances were in almost universal use at United States Government hospitals, such as the naval hospitals, and at numerous public and private hospitals throughout the country, but such has been the change of sentiment on this score that the writer has been unable to learn of a single hospital that is today making use of the electric ambulance. Loss of time, necessary for recharging the batteries, and slow speed in responding to emergency calls constituted two indictments found against the electrics by hospital authorities, but to these considerations

were added those of relatively high first cost and upkeep.

Tire expense is an important responsibility in connection with the maintenance of a motor ambulance, since the average ambulance will, under

Fig. 1. View showing interior arrangement of United States Navy Department (Bureau of Medicine and Surgery) standard motor ambulance.

the most favorable conditions, wear out one set of tires a year, and yet tires are a commodity where skimping on first cost is seldom an economy in the long run. Under all conditions of hospital service, and especially if emergency cases are to be handled, it is obviously desirable to reduce to a minimum "blow-outs" and other tire troubles that are invited when quality in tires is sacrificed, and similarly the most efficient makes of nonskid tires on all four wheels are worth-while insurance against contingencies when antiskid tires are not in use on the wheels.

The tire bill for the hospital ambulance will be found to bear at all times direct relation to the class of vehicle employed. Thus, whereas the heavier ambulance, with its long wheel base, more powerful springs, etc., gains in the quality of easy riding, the larger wheels that contribute to this mean larger initial expense for tires, and more frequent replacements are necessary, owing to the greater weight of the car. Operators of an autoambulance weighing 4,000 pounds have reason to congratulate themselves if the tires yield an average mileage of 6,000 to 7,000, such as is common with ambulances weighing under 3,000 pounds, and, going down a step in the scale of weight, we find that the light car may finish 10,000 miles with tires in better shape than those of the car of intermediate weight after 7,000 miles.

Authorities seem to agree that there is no reason why the tire bills for the average automobile ambulance should be higher than those for a commercial vehicle using tires of the same size, and, of course, it is unusual for a hospital car to cover day by day as many miles in any given period as a delivery car in the service of a local merchant or department store. The higher average speed at which autoambulances are operated may shorten somewhat the life of the tires, but there is evidence to support the theory that the high speed is not so costly as the sudden application of brakes, which is frequently necessary in the operation of ambulances and which causes the rear tires to grind out their life against city pavements.

Perhaps the heart of the whole question of whether the automobile ambulance is a profitable

Fig. 2. Rear end view of a United States army motor ambulance.

investment because an economical one lies in a comparison of first cost and cost of operation of the motor ambulance contrasted with the corresponding figures for a horse-drawn ambulance. Unfortunately detailed statistics presenting this deadly parallel are not as numerous as might be desired, and as probably would be the case were

hospital executives less prone to surrender to the convenience of the motor ambulance without close inspection of its financial aspects. Probably the most accurate information designed to have an estimate made of the two types of locomotion has been gathered by the United States War Department and the United States Navy Department, and, whereas much of this covers ambulance operation under conditions that do not approximate those at the average urban hospital, nevertheless the conclusions in favor of the motor ambulance may be accepted as of wide application.

One disclosure as a result of governmental investigation is that there is not the difference that many persons have supposed in the first cost of the two types of ambulances. To cite a concrete case, it may be said that the Bureau of Medicine and Surgery of the United States Navy Department now purchases, on its standard specifications, a high-class motor ambulance that costs, delivered, $2,200. The navy officials figure that a horse-drawn ambulance of equivalent capacity would cost $800 for the vehicle, $500 for horses. and $100 for harness, etc., a total investment of $1,400 as compared with $2,200. It is held, however, that, whereas the balance is thus in favor of the horse-drawn vehicle, this comparison presupposes a situation that would exist only at a small hospital or one of somewhat restricted operations.

In the case of a large hospital, or an institution handling a large number of cases, the Navy Department officials figure that, whereas a single motor ambulance can do the work, it would be necessary to provide two horse-drawn vehicles if reliance were placed on the latter type. With two ambulances (single-horse type) three horses would be necessary, to allow for one animal in reserve, just as allowance of two horses is made when but one ambulance is provided. With two ambulances and three horses it is easy to figure, on the basis of the above figures, that the total first cost is above that for a motor ambulance, and the advantage thus goes to the motor under these circumstances, unless it can be figured that a horse-drawn vehicle and the animals to draw it can be counted on to give longer continuous service than is granted to the auto on the depreciation basis above outlined.

Repairs must, in the case of either type of ambulance, be estimated. Advocates of the horse-drawn ambulance are wont to contend that repairs in the case of an automobile will run higher than in the case of the former vehicle, but there are, of course, no hard and fast rules that apply, and motor enthusiasts point out in rebuttal that the loss by death of an ambulance horse represents an expense that has no counterpart in automobile maintenance, barring the case of an accident involving serious damage to the vehicle and which may occur with either type of ambulance. The claim that the wage of a man competent to drive a horse-drawn ambulance is lower than the salary demanded by a chauffeur-mechanician is offset by the contention that the man who can take care of his own car can make many minor repairs for the equivalent of which the other driver would call on a blacksmith, and that furthermore there is the advantage that an automobile driver is always available as stretcher man or to assist the ambulance surgeon on call, whereas the other driver must remain in his seat because it is not safe to leave the horses unattended.

Figures that have been compiled by the United States Army Medical Corps officers representing cost accounting for motor ambulances of a class made possible through the use of the best known make of cheap motor on the American market put a different aspect on the case from that presented on the basis of the $2,200 automobile ambulance built to the order of the Navy Department, as above outlined. The army computation would make it appear that where this low-price ambulance can be used—and it has been used successfully under severe rural road conditions in both Europe and the United States—it has no rival from an economic standpoint either in the matter of first cost or maintenance.

The army figures allow $360 as the first cost of the chassis and $225 for the special ambulance body, which is mounted on the standard chassis. Spare parts and accessories, such as extra tires, bring the total initial cost of this ambulance, exclusive of the four litters, up to $621.10. This low first cost means, of course, proportionately small loss by depreciation, whereas the fact that tire casings for this car are obtainable at prices of $10 to $15 each, and that the car averages more than twenty miles to the gallon of gasoline, holds the operating expense to the minimum. Indeed, the Federal ambulance experts figure that on this type of motor ambulance their oil and gasoline expense is little more than 2 cents per mile. It may be of interest, also, to note that they estimate repairs at $50 per year, which is at slightly more than 8 percent of the first cost of the ambulance.

In the comparisons instituted at the War Department the expense account of the type of ambulance just described was placed in deadly parallel, not with a horse-drawn ambulance, such as is common in general hospital practice, but with a four-mule ambulance, such as is standard in our military establishment. The first cost of the mule-

Fig. 3. Unique combination motor ambulance and relief car in use by the United States Bureau of Mines.

drawn ambulance is given as $1,154.66, or upward of double that of the motor ambulance, and, even if we eliminate the item of $400 for the two lead mules, it may be appreciated that the first cost is yet in excess of the initial cost of the motor vehicle. Army officers are wont to estimate the cost of forage for a horse at more than $100 per year, so that it will be seen that, even were a hospital to content itself with a single horse, the feed bill would equal the gasoline bill for a light motor ambulance, and, if there be an extra horse, the forage bill would far exceed the gasoline bill, for it must be remembered that prices of hay, oats, and straw have advanced as well as the price of gasoline.

Garage expense versus stable expense presents another angle of the ambulance problem that may confront the hospital executive. Here, however, there is little opportunity to claim an advantage on either side. It is virtually essential, of course, that ambulance quarters be provided in close proximity to the hospital; but on that score it is quite as easy to construct a garage that will conform to city fire regulations as it is to provide a stable that will meet municipal health regulations, to say nothing of the consideration of the health of the patients in the institution. Quarters for an autoambulance should occupy less space than shelter for one or two horse-drawn vehicles and for the horse or horses. If garage space must be rented, the rental will, of course, depend entirely on the city and location, but perhaps it is safe to hazard a guess of $5 to $10 per month for a small building capable of housing the autoambulance. This presupposes that all the work of washing the car, making minor repairs, etc., will be performed, as is usually the case, by the driver. If commercial garage service is used for storage, oiling, and washing of the car, etc., the charge will be from $15 upward per month.

Maintenance costs in the case of an automobile ambulance are likely to be affected somewhat by the style of car body used. In many instances, as has been indicated, modern motor ambulances are not the product of the factory that produces the engine. On the contrary, the hospital authorities contract for any desired chassis and then have installed on that chassis a body built to their particular specifications, the work being performed perhaps by a local carriage builder. That an ambulance body with solid sides has advantages, no one will gainsay, but it must also be recognized that solid sides mean added weight, with all the attendant penalties in cost of upkeep, and that furthermore such a body, if subjected to much strain and stress in every-day

Fig. 4. Type of motor ambulance designed in accordance with United States Government specifications.

service—for instance, frequent joltings over car tracks at high speed—will require rather more than the normal amount of repairs. All of which makes it of interest that the latest practice with respect to United States military and naval ambulances calls for curtains at sides and ends instead of solid surfaces. These curtains roll up and fasten permanently when the state of the weather and the condition of the patients permit, whereas, when lowered and fastened in position, the curtains afford protection adequate for anything but the most severe climates. Aside from economical considerations, the arrangement of open sides, with curtains, is considered advantageous where a considerable proportion of the patients are sitting cases. A standard United States army motor ambulance will accommodate on the divided folding seats on either side of the car a total of eight sitting cases, or the disposition of the interior equipment may be made to provide for two litter cases and four sitting cases.

With a motor ambulance or ambulances in continuous operation for a hospital over a term of years, it will be found that the most important influence is exerted on the cost of maintenance and operation by the policy pursued with respect to replacement. The motor ambulance may be continued in service until it is pretty nearly worn out —an effective life in excess, probably, of the five years above allotted—or the plan may be followed of "trading in" the old car and receiving a new one, say, every second or third year. Each plan has its advocates, and it is not the purpose to here attempt to declare unqualifiedly in favor of either system. Nor is there as much difference in cost, as the uninitiated might suppose, owing to the fact that a car that has run only 10,000 or 15,000 miles can usually be sold at a very fair proportion of its original price, whereas the car that has covered 30,000 to 50,000 miles may bring a comparatively insignificant price in the second-hand market.

The ambulance expert who believes in getting full value out of a car and then discarding it for whatever it will bring, even as junk if necessary, contends, and probably with good reason, that in a term of years he will pay much less money to the ambulance builders than the official who keeps abreast of the latest practice by frequent exchanges of an old model for a new one. On the other hand, it must be admitted that the policy of squeezing the last ounce of service from a motor ambulance means in the later life of the vehicle repair bills far in excess of those incurred by the man or institution that makes frequent renewal of equipment. Whatever the preference as to replacement policy, there are several considerations that are comforting to all users of motor ambulances. One of these is that automobile engineering has been so highly perfected that no longer does each successive year find radical innovations and improvements that render a vehicle out of date in twelve months. Another turn of affairs welcome to hospital executives is the development of the market for used cars, suitable for delivery service and other commercial purposes. This insures a remunerative market at all times for used motor ambulances.

THE FIRST DIAGNOSIS HOSPITAL

New York Society Will Create a Unique Institution

A banquet given at the Waldorf-Astoria in New York December 5 by the New York Diagnostic Society, in honor of its president, Dr. M. Joseph Mandelbaum, was made the occasion for the announcement of a plan of the society for the establishment of a diagnosis hospital, which will be the first of its kind in the country. In an address Dr. Mandelbaum declared that, in New York city alone, 3,000,000 people suffer because of the inability of general practitioners to obtain proper facilities for complete diagnostic investigation. "Insidious disease, chronic illness, and premature death are the results of this unfortunate state of affairs," he asserted. "Out of 8,000 physicians in this vicinity," Dr. Mandelbaum continued, "only seven are equipped with apparatus for making a thorough examination of the heart. How many hospitals do you think are equipped with the electrocardiograph, for instance? Less than you can count on the fingers of both hands."

Dr. Mandelbaum said further that the society is developing a system whereby the fees charged patients in the new institution will be gauged according to their earnings, and those not able to pay at the time they require service will be cared for and an arrangement made under which they will be permitted to meet their indebtedness by convenient installments after they have recovered.

Nearly $100,000 has already been subscribed toward a building fund, and it is believed that an additional $100,000 to complete the sum sought can be raised in a short time. Dr. Julius Auerbach is treasurer of the fund. It is understood that Dr. Mandelbaum will be the active head of the hospital.

The need of diagnostic hospitals was voiced by Dr. Charles Mayo in an address before the annual convention of the Catholic Hospital Association last summer. Dr. Mayo said: "With all of our various hospitals, general and special, there is still need for one more—a hospital for diagnosis. Medicine has become so vast, so monumental, that it is no longer possible for one man to encompass it. Team-work, as exemplified in large clinics and in hospitals, has become necessary in the care of the rare and complicated cases representing 10 percent of the total, with special examinations for the well-known diseases, in order that diagnosis may be proved and complications not overlooked. In large cities and in the medical departments of universities diagnosis hospitals should be founded solely for the purpose of observing patients, the making of all kinds of special examinations, including laboratory tests, special vaccines, and x-ray examinations. When the diagnosis has been completed, patients could be referred to their home physician, with the diagnosis and plan of treatment."

THE STORY OF A NEW ENGLAND COUNTY HOSPITAL

Definite Rules Enforced Against Physicians and All Others—Proper Staff Assignments Give Responsibility—Wide Range of Cases When Good Diagnosis Is Made

By J. M. FRENCH, M. D., Milford, Mass.

UP to 1903 we had no hospital in Milford. The town at that time had a population of a little over 12,000, and its close-by companion town of Hopedale about 2,000. Milford is a manufacturing town, thirty-three miles from Boston, producing largely granite for building purposes, shoes, and rubber goods. Hopedale is the home of the Draper Company plant, which manufactures looms and other machinery for cotton mills. The interests of the two towns are largely the same.

For a number of years it had been recognized that there was need of a hospital for these two towns, but no one had been able to suggest how it could be obtained. The local medical society held a meeting to discuss the situation, and voiced the public need. The board of trade took up the matter and appointed a committee to see what could be done. A few summer boarders in a near-by hill town, who felt the practical need, set the ball rolling by making a small contribution to start a hospital fund. One of our physicians stated the case to Mrs. Draper, wife of E. S. Draper, of the Draper Company (afterward Governor Draper), and she and her husband became interested. Then things began to be done. In 1900 the Milford Hospital corporation was organized, a convenient location was furnished by Mr. Draper, and in 1903 the completed hospital, built, furnished, and fully equipped by Mr. and Mrs. Draper, was presented to the corporation and began its work.

It was a small hospital, but in every way modern and well equipped. No money or pains were spared by its donors to make it equal to the best. Beginning with a capacity of 15 beds, and treating a little over 100 patients the first year, it has grown steadily from that time to the present. An annex was added to the main hospital in 1909, and another will be needed very soon. At present the capacity of the hospital is about 50, and over 700 patients were treated during the past year—that is, from June 1, 1915, to June 1, 1916. Plans are now being made for a contagious ward, which is to occupy a separate building a little way from the main one. It is probable that a separate building will soon be needed for maternity cases, as this branch of our work is rapidly increasing. Only four babies were born in the hospital the first year, while last year there were 106. It is coming to be generally understood that these cases can be attended much more satisfactorily there than at home, with better results and at much less expense.

In 1905 a training school for nurses was organized, with a three years' course of training, and classes have been graduated yearly from 1908 until the present time. A good-sized dwelling house was donated by Governor Draper to be used as a nurses' home, and was so used until it was outgrown, and a part of the nurses had to be housed elsewhere. Both Governor and Mrs. Draper had now passed away, but their children have taken up their work, and this present year have completed and donated to the hospital a fine home for the nurses as a memorial to their parents. This is fitted up for 35 nurses, and in its equipment has probably no superior in the state. The last graduating class numbered 9, and there are now 29 nurses in training. Thus the work in all its branches is growing constantly, and new buildings and new equipments are provided only when they are urgently demanded.

Looking back over the more than thirty years during which I have practiced medicine in Milford, I can see that since the hospital has come the town is a better place in which to live and a better place in which to practice medicine, for one thing, on account of the opportunity which it offers for the better care and treatment of the sick. Of course the hospital is needed least of all by the wealthier citizens, since they—and they alone—can afford the best of care for their sick ones in their own homes. It is of more value to the fairly well-to-do, because it offers to them better care for less money than they can secure in their own homes. It is of by far the greatest value to the really poor, who are unable to provide any proper care for their sick at home, and who must, therefore, without the hospital, of necessity do without any proper care and nursing, or else both doctors and nurses must serve without compensation; and even then, on account of the lack of proper conveniences, the best results cannot be obtained. But with the hospital conducted as most country hospitals are today, the sick poor are given the best of care, at whatever price they are able to pay, or at no cost at all to them if they are very poor and unable to pay anything.

We began our hospital without any endowment, and with no provision for free beds or free treatment. But, even under these circumstances, one

of the first lessons which was taught to the medical staff by the president of the hospital was this: "When you have a patient seriously ill, and in need of care and attention which cannot be given him at home, *the hospital is the place for that patient.*" In that way we learned to bring them in, of course taking due care that provision for payment was made by those who were able to pay; but when one was wholly unable to pay, we brought him in just the same, and let the hospital authorities look out for the rest. As a rule, when neither the patient nor his friends are able to pay, either the town or the state looks out for the case.

Some years ago I was called to attend a man seriously ill with pneumonia, whose home was a sad example of filth and destitution, coupled with ignorance and inefficiency. It was impossible to give him any proper care in his own home, and so I tried my best at the outset to have him taken to the hospital. But his wife refused to let him go, and it was not until he had been ill nearly two weeks, and it became evident that he had almost no chance of recovery without a change of conditions, that she finally consented. By this time he had become so greatly weakened as to make his removal a source of danger, and he was considerably worse at first as the result of it. After a long illness, however, he recovered—owing, no doubt, to the better conditions at the hospital as compared with his home.

Sometimes the hospital is full, and it becomes a question whether a patient can be received. In such cases our hospital, and I suppose every well-regulated public hospital, decides, not in favor of the one who can pay the most, but of the one who is most in need of hospital treatment, which is usually the one who can pay the least, or, more likely, nothing at all. At one time I remember I had a patient dangerously ill, and needing care and treatment which he could not get at home. I knew that the hospital at that time was full, and had absolutely no beds available; so that, if my patient had been one who could have had any reasonable care at home, he would have been refused admittance. So, instead of asking whether there was room for him, I said to the management, "Here is a man who is in urgent need of care which he cannot get at home; I think we shall have to make room for him somehow." And make room for him they did—I am sure I do not know how. Now, any institution which will do these things for its citizens gives greater safety to the lives and health of its people and is a blessing to the community as a whole.

Many times when we had no hospital we, the physicians of the town, suffered much anxiety of mind ourselves, and our patients suffered both in body and mind, because we were unable to give them proper care, and especially to secure expert advice and medical and surgical treatment, in season to be of service to them. We had no place to take them, no proper facilities to care for and treat them, and so they died. Now, with the hospital at hand, and skilled consultants within easy reach (the best in the state can be brought to us in scarcely more than an hour's time), and then with the best of nursing care to help them out during and after an operation, if one is needed —under these circumstances, I say, our patients live where in the prehospital days they died; and, besides this, the practice of medicine has more of enjoyment and less of anxiety in it than it had in the past.

Perhaps it may not be out of place to speak here of the influence of the hospital on the medical profession of the town. The best men of the profession, both in the community and as consultants, are brought together here, and, through mutual consultations, observation, assistance, and interchange of opinions and experiences, there is developed in the local physicians a greater degree of ability and skill than they would otherwise have attained. Nor do I consider that the gain is wholly confined to the local men, for many times I have heard the members of the consulting staff say that they had found cases in our hospital which were unlike any they had seen in the city hospitals, and had gained valuable information and experience from our country hospital. As a rule, however, we are the greater gainers; notably is this true with respect to the major surgical operations.

During the first years of our hospital, for example, nearly all of the abdominal and other major surgery was done by the members of our consulting staff, who came from Boston and Worcester to operate for appendicitis, gallstones, gastric and intestinal ulcers, uterine and ovarian tumors, and the like, while today almost all of this work is done by our own men, and well done, too. This not only makes them of more value to the hospital, but to the community—that is, their patients—and also increases their earning power, thus helping themselves and their families. In this way these men are recompensed for the work which they do in the hospital without any direct pay; and, while there can be no doubt that the hospital really does take much money from the doctor's pocket, yet I have never noticed any general hesitation on the part of the members of the medical profession, here or elsewhere, in accepting appointments on the hospital staff. It seems, therefore, as though this were an arrangement to the advantage of both parties; and, with every im-

provement in the average skill of the local medical profession, the whole community is benefited.

Convincing proof that a hospital is an advantage to its community is found in the fact that it is an exceedingly rare thing for a hospital, once established in a country town, to be given up; also in the further fact that the use of the hospital by the inhabitants of surrounding towns having none of their own almost surely increases from year to year; also the whole number of patients treated each year increases almost regularly. Given the supply, the demand is sure to follow, and to increase. In our own case, in a hospital treating but 100 patients the first year, the increase has averaged about 50 patients each year, and this rate seems likely to continue.

There are many ways of managing a hospital, and no doubt one way may be best adapted to one community and another way to another. Ours is an open hospital, to which any reputable physician may bring his patients and treat them himself, receiving such compensation as may be agreed on between them and himself. Or, if he cannot attend to them himself, he can turn them over to any member of the staff or other physician who may be mutually agreed on. This relates to the treatment of patients in private rooms, and not in the public wards, where the rates are less, and a different rule is followed. Since all ward patients pay less than the actual cost of their care, and the hospital is responsible for them as well as the private patients, it is found advisable that they should all be under the care of the members of the local staff, since in no other way can the hospital be made responsible for the conduct of the wards. Therefore, any physician who brings a patient into the public wards turns such patient over to the attending physician, and has no further control over the case himself. The members of the staff receive no compensation for their service in the wards; but any physician, whether on the staff or not, is allowed to receive his usual compensation for treating patients in private rooms. In this way the doctors gladly send their patients to the hospital, and do not feel that the hospital is working against their interests.

There are, of course, certain regulations of the hospital regarding the care and management of patients, and these must be observed by all. It has once or twice happened that a physician or surgeon was not sufficiently aseptic or careful in other respects to satisfy the demands of the hospital, and special rules have been made to provide for such cases, but they have been very few.

The business of the hospital is conducted by the trustees by means of a managing board, which is composed mainly of business men, with two medical men selected by the staff to look out for the medical and surgical interests of the hospital; and, during the thirteen years of its existence, in only a single instance has there been any disagreement between the medical members and the full board in any matter relating to the medical management of the hospital.

By our arrangement two men serve together for a period of two months, one looking after the medical patients, the other after the surgical, but the two cooperating in every way they may find advisable. This arrangement has proved very satisfactory in our case, though in some other places it is not considered advisable. One member of our staff is a homeopathic physician; but he was not appointed as a homeopathist, nor was any mention made of the fact that he was a homeopathist; he was appointed simply as a physician, and serves on the same terms as the other members. In fact, we recognize no difference, and this is made the easier as he serves on the surgical side.

Thus far no member of our attending staff has been selected from outside the two towns of Milford and Hopedale, nor is it probable that any physician further away would be willing to give up the time which would necessarily be required of him to come the greater distance and give the proper service to the hospital patients.

An important adjunct to our hospital is the training school for nurses which is connected with it. This was organized in 1905, and has proved a benefit not only to the hospital directly, but to the doctors and the whole community by its valuable nursing service. It provides a three-years' course of training for the nurses, and during the second and third years these nurses are sent out into the homes of the community to do private nursing when called on to do so by the citizens and they can be spared from the hospital. This is considered as a valuable part of their training, combining, as it does, theory and practice under the supervision of their instructors.

When a nurse is graduated and sent out to do private nursing—which is the service in which by far the greater part of our nurses are engaged—when she has had no practice whatever in anything but hospital nursing, she is sent out to do what she has never done, and yet she is a graduate nurse. It does not seem to us that this is fair, either to the nurse or to her patients, let alone the physician for whom she is working. On the other hand, this home and community service is very much valued by our people as a whole, and these student nurses are very much in demand. In addition to this local home nursing, all our nurses spend four months of their last year in the city of Cambridge, where they serve under the immediate

supervision of competent instructors as district or visiting nurses, largely in obstetric and surgical cases. This work has proved of great value to them.

The teaching staff consists of nine physicians and five nurses, who give theoretical and practical instruction in all the branches required in their service. Nine nurses were graduated in the last class.

To sum up, the advantages which our hospital has proved to our community are three: first, its excellent facilities for the medical and surgical treatment of the sick, which are furnished by the hospital itself; second, the increased efficiency and skill which it has brought to the physicians of the town as a whole through the opportunities and experience afforded by the hospital; and third, the greatly improved nursing service and better care of the sick in the homes of the community, due to the training of nurses in the hospital, and also in the homes of the sick under the care and supervision of their teachers. In this connection I remember that it was publicly stated by Governor Draper that, in providing a hospital for the towns of Milford and Hopedale, he was especially influenced by the belief that such an institution would prove a benefit to the community, both by improving the quality of its medical men and by furnishing a more satisfactory nursing service for the sick. Both these beliefs have proved true.

People often ask one another, "What should we do without the hospital? How could we get along without it now?" And indeed, to go back now to the old ways and get along without the hospital would be like giving up the electric cars, electric lights, telephones, and motor cars. We simply should not know what to do or how to get along.

THE SMALL COMMUNITY HOSPITAL—THE EQUIPMENT

Lists of Furniture for Offices, Reception Rooms, Kitchen, Dining and Service Rooms—Private Rooms and Wards—Operating Suite—Drug Room, Physical Therapy—Laboratory and X-Ray Department

By JOHN ALLAN HORNSBY, M. D., Chicago

PAPER VI

IN our study of the small community hospital we have now discussed the survey of the community to determine whether a hospital, and what kind, seems to be needed, the raising of funds, the temporary or working organization, planning of the building, and the interior arrangement.

The construction of the building is wholly an architectural job, with which neither the board nor the superintendent has very much to do, excepting to look on and follow the evolution of its plans; and we will assume that now the hospital is completed, that the permanent installation is all in, and we are ready to equip the building for operation.

It is to this task that we address ourselves this month, and it is not an easy task, because conditions will vary in different hospitals, and equipment that would suit admirably in one will not serve at all in another. For this reason we are finding it necessary to set down more articles of equipment than any small hospital will ever need or install, but we do so in order that those charged with the responsibility may have a wide choice, and the list given is complete enough to enable superintendent and board members to select what they may deem desirable in their particular problem.

It will be noted that we begin at the very entrance of the hospital, taking up the offices, reception rooms, and the examination or admission rooms. We continue then with the domestic departments, and go by easy stages to the rooms and wards, and then to the special or scientific departments. It will be noted that we have not attempted to list food supplies or drugs, or surgical instruments, for the reason that the hospital pharmacy, in these days, is undergoing vast evolution, and the simplicity or elaborateness of the drug supply will depend almost wholly on the character of the work to be done and the wishes of the medical staff. Food supplies are elastic, and the list of those that might be expected to find a place in any hospital would be a complete list of all the food products that enter into the social life of today; hence such a list would be too long to justify its inclusion. Surgical instruments depend wholly on the scope of the surgical work to be performed, the character and training of the surgeons, the size of the surgical staff and the needs of its individual members; such a list must obviously be prepared in cooperation with the various surgical services, and the specialists in each service are the best judges of their needs. Suffice it to say that it will be practically impossible for any hospital to buy all the surgical instruments that its various surgeons may require. Every man who has attained a place that will justify his inclusion in a hospital staff will have his own notions about his instruments, and the hospital can undertake to furnish only those that may

be considered standard, leaving it to the various specialists to buy on their own account, to be kept for their own special use, any instruments that are outside of the standard supplies. It is the custom in most hospitals, whether large or small, for each surgeon to have his own instrument case, under his own lock and key, with a duplicate key in the hands of the head surgical nurse. This box should contain his special instruments, and it should be a part of the training of the pupil nurse to include on the tray whatever special instruments each surgeon may need for his various classical operations. The nurses should clean and keep in good order the instruments in these boxes, and it should be a part of their duty to see that no instrument in any box is permitted to be used, except in the rarest emergency, by anyone other than its rightful owner.

EQUIPMENT OF THE SMALL HOSPITAL

FRONT OFFICE

1 high desk for receiving clerk.
1 high stool for receiving clerk.
1 low desk for office clerk.
1 desk chair for office clerk.
1 card index file for admissions.
1 file cabinet for one month's clinical records.
1 file cabinet with drawers for bills.
1 room board for wall.
1 physicians' "in-and-out" register.
1 safe for money and patients' valuables, etc.

SUPERINTENDENT'S OFFICE

1 roll top desk.
1 swivel chair.
1 rotating book rack.
Some sectional book cases.
1 large rug.
2 arm chairs.
Some wall pictures.
1 letter filing cabinet.

RECEPTION ROOMS (ALL FURNISHED ALIKE)

1 large center table.
1 small side table.
1 lounge or couch.
1 rocking chair.
6 comfortable arm chairs.
Some appropriate wall pictures.

DOCTOR'S EXAMINING OFFICE

1 gynecological chair.
1 flat top desk.
1 swivel chair.
2 arm chairs.
1 side table.
1 extension light.
1 small instrument cabinet.
1 combined letter and case cabinet.

KITCHENS AND DINING ROOMS

1 range.
1 broiler and toaster combined.
1 3-section vertical steam cooker.
1 3-compartment deep sink, cypress or alberene stone, brass-rimmed.
1 large cook's table with drawers.
1 utensil rack on floor.
1 utensil rack suspended over range.
1 dish warming cabinet.
Dish washer.
Large carving knives and forks, spatulas.
Large spoons and ladles, wood and metal.
Pans—pie pans, sauce pans, drip pans, baking pans, frying pans.
Cast pots, various sizes.
Colanders and drain pans.
1 condiment case with individual receptacles and shakers.
Soup kettles and stock boiler.
Whips, cream and egg.
Glass jars for sugar, flour, etc., and cabinet.
Biscuit and cake cutters, assorted.
Knife boards, wooden bowls, rolling pins and bread boards, potato mashers.
Ice cream freezers (large and small).
Scoops (large and small).
Can openers.
Pressers—lemon and meat.
Casseroles and lids.
Ramekins.
Muffin and cake rings.
Egg poachers.
Double boilers (large and small).
Waffle irons.
Dippers (large and small).
Pudding and jelly molds.

PREPARATION AND BUTCHER'S ROOM

1 fish icing box.
1 butcher's block.
1 strong table, metal top.
1 line shaft, ceiling motor, pulleys.
1 meat slicer, belt and pulley.
1 meat grinder, belt and pulley.
1 potato peeler, belt and pulley.
1 ice cream freezer, belt and pulley.
1 ice crusher, belt and pulley.
1 bread slicer.
1 potato masher.
1 long low bench.

DINING ROOMS

Tables and chairs.
1 serving cabinet, for each room.
Serving tables, for each room.

FLOOR SERVING ROOMS

1 small steam table with oven.
1 side table.
1 gas or electric plate.
1 ice box or refrigerator.
Cupboards for dishes.
Drawers for cutlery and napery.

CHINA AND GLASSWARE

Plates—dinner, breakfast, soup, bread and butter, cake (with covers).
Cups—coffee and tea, demi-tasse, custard, children's mugs.
Bowls—porridge, finger.
Saucers.
Pitchers—large water (large and small cream).
Tumblers—glass for wards and private rooms, wine and medicine glasses.
Tureens—soup—and gravy boats.
Dishes—large and individual vegetable, pudding, casserole.

CUTLERY AND SILVERWARE

Knives—dinner and breakfast, butter, carving (large and small), cake, parers.
Forks—dinner and breakfast, carving, pie, oyster.
Spoons—table, dessert, tea, mustard, soda.
Ladles—soup, gravy, punch.
Nut crackers.
Pitchers—coffee and tea (large and individual), syrup (large and individual).
Shakers—salt, pepper (large and individual).

LINENS, NAPERY, AND COTTON GOODS

Table cloths; napkins; dish towels; dish cloths; sheets; draw sheets, slips; mattress covers; wheel chair covers; towels, bath, face, and hand; wash rags; tray cloths; dresser and table covers; screen covers; stool covers; Morris chair covers; window curtains; laundry bags; nurses' caps and aprons; hospital gauze, assorted mesh; absorbent cotton; batting; assorted bandages, or bandage cloth; lot of indianhead; operating gowns.

UNIFORMS

For ushers, orderlies, maids, floor men.

JANITOR SUPPLIES

Mops; mop holders; mop pails; sponges; chamois; soap powder shakers; brooms; brushes—scrub, floor, radiator, toilet bowl, slop sink, clothes, and bottle washers; feather dusters; garbage cans for everywhere; soaps; soap powders; soda; bleach; oxalic acid; ammonia water; soap boiler.

TRUCKS

Food; laundry; garbage; medicine wagon; trunk; irrigation wagons.

SCALES

Drug room; laboratory; large and small for store rooms; for weighing patients; coal scales; nursery scales.

FURNITURE FOR PATIENTS

Private room—bed; mattress; 2 pillows; dresser; chiffonier; 1 rocker; 2 straight chairs, 1 Morris chair; commode; footstool; 1 small table; 1 bedside table; 1 3-section screen; nurse's couch, mattress and pillows.

Wards—beds; mattresses; pillows; bedside rugs; clothes lockers; 1 or 2 Morris chairs; footstools; straight chairs; 1 or 2 rockers; bedside tables; 1 large nurse's work table; nurse's desk and chair; 2 or 3 3-section screens; commode.

Sun parlors—willow furniture; arm and straight chairs; lounge; center table; book shelves.

APPARATUS FOR NURSING PATIENTS

Stretchers, collapsible and wheel; dressing carts; bed rests; back rests; bed elevators; bed rollers; wheel chairs; irrigation stands; examination lights on stands.

Enamelware—bed pans; urinals; wash pans; pus basins, nests; shallow dishes, nests; deep basins, nests; soap dishes; cups; pitchers, large and small; dressing jars; enema can; irrigation can.

Rubber goods—gloves; assorted rubber tubing; water bottles, ice bags, and caps; stomach and enema tubes; rubber tissue and dam; sheeting; Kelley pads; assorted catheters; Esmarch bandages and tourniquet rubber.

Miscellaneous—pins and safety pins; hypodermic syringes; clinical thermometers, mouth and rectal; scissors, assorted sizes for nurses.

SPECIAL DEPARTMENTS

OPERATING SUITE

Tables—operating, instrument, anesthetic, drum tables, work tables in nurses' work room, side tables in preparation room, writing table for doctors' room.

Shelf cabinet for operating room; wall cabinet for preparation room; stools, high and low.

Sterilizing Apparatus—water, dressing, instrument, salt solution, utensil, and mattress sterilizer; laparotomy drums and stand; dressing sterilizer carriage.

Miscellaneous—solution basins and stand; arm plunge on stand; goose neck reflector light; cautery apparatus; motor and bone drill, with tools; head lamp; lot of unbleached muslin for treated and plaster bandages; glass or enamel jars with covers for sterilizing articles; catgut and tendon, assorted; silk thread, black and white, assorted sizes; oiled muslin; green soap; shakers for powders, etc.; anesthetic apparatus and masks; head nurse's desk and chair; chairs, couch, and lockers for doctors; lockers and chairs for nurses' room.

MATERNITY DEPARTMENT

Labor room—special bed; wheel stretcher; cabinet for instruments; cabinet for sterile dressings; special light; resuscitation apparatus.

Sterilizing outfit as for operating suite.

NURSERY

Baby beds on stands; bath tubs; compartment table for dressing babies; incubator; low rockers without arms.

THE LABORATORY OF PATHOLOGY

Glassware—test tubes; beakers; flasks; glasses; assorted glass tubing; assorted bottles; reagent bottle.

Paraffine oven; autoclave; bunsen burners; microtome; special trocars; long hypodermic and spinal needles, with syringe; centrifuge; post-mortem set; microscopes; platinum wire; petrie dishes, nests; porcelain bath; filing cabinet.

DEPARTMENT OF HYDROTHERAPY

Mixing chambers to douch, needle, and shower; continuous bath with temperature control; massage table; light and heat cabinet; baking apparatus for parts of body; electric battery for treatments.

X-RAY DEPARTMENT

Machine, with switch board; table, recumbent and erect; tubes; fluoroscopes; treatment brushes and electrodes; plates and holders; filing cabinet; viewing box; dark room; sinks, baths, lights, dryers, shelves.

PHARMACY

Prescription case; scales, apothecary and avoirdupois; mortars and pestles, porcelain and iron, large and small; spatulas and ointment plates; pill molds; glassware; graduates, large and small; assorted bottles and corks; shelf bottles; labels; glass tubing, assorted; test tubes; beakers; powder and pill boxes, assorted.

Trachoma Hospitals in the Mountain Region of the South

According to Dr. John McMullen, the foundation of the little hospital for trachoma patients at Hindman, eastern Kentucky, has been followed by the establishment of six other similar centers, three in Kentucky and one each in Tennessee, West Virginia, and Virginia. During one year, routine examinations were made of 18,000 persons, 1,280 cases of trachoma were found, 112,000 treatments were given, and 1,687 operations performed. The confidence of the people has been slowly won by extension of the nursing service into the homes of the people. The first words of one patient after coming out of the anesthetic were, "Well, I did wake up, after all." It was learned that the mountain tradition ran: "If you go up to the hospital, doctors put you to sleep, and only one person in a hundred ever wakes up again." Because of his utter wretchedness as a blind pauper, this patient had taken the supposed desperate chance for his sight.

The Julia Work Hospital is a new institution at Plymouth, Ind. The building was formally opened December 3.

BARTINE GOES TO FLOWER HOSPITAL

Superintendent of Hospital for Ruptured and Crippled Makes Change After Twelve Years of Service

Effective January 1, Mr. Oliver H. Bartine, now superintendent of the Hospital for Ruptured and Crippled, New York, has tendered his resignation to accept the superintendency of Flower Hospital. During the twelve years of his incumbency, Mr. Bartine, through his unflagging energy and effort, combined with a singular steadfastness of purpose, has not only laid a foundation that will last for a long time, but has been in large measure responsible for the present high standard of accomplishment which is synonymous with the name of the New York Hospital for Ruptured and Crippled.

The efficiency of Mr. Bartine's regime is most effectually demonstrated, not only from the standpoint of exceptional administrative ability in so far as hospital equipment and management are concerned, but also along the line of finance, such, for instance, as a greatly increased endowment fund and a per-capita operating expense decidedly less than that of similar institutions doing a like work.

In addition to his hospital connection, Mr. Bartine is also vice-chairman of the New York Committee on Aftercare of Infantile Paralysis Cases, organized at the suggestion of Dr. Haven Emerson, commissioner of health, and now doing a most notable work under the immediate supervision of Dr. Donald E. Baxter as director, whose services have been loaned to the committee by THE MODERN HOSPITAL.

State Versus County Care of the Insane

Dr. Owen Copp, superintendent of the Pennsylvania Hospital for the Insane, in a statement in support of the state as against the county hospital system, says: "Experience teaches that the state alone has provided or can reasonably be expected to provide sufficiently for medical treatment and scientific study of the insane. . . . The so-called economy of local and county care is a delusion in that it is a saving by deprivation of sufficient medical attention, facilities for treatment, precautions against secondary infections, and reproduction of defectives. The motive of the county care system is mercenary. State allowance is usually sufficient to relieve local units of any considerable expense. Often actual profit is made out of state payments for the support of mental dependents."

Graduation of the First Class of Samoan Nurses

The annual report of the surgeon-general of the United States navy for 1916 contains the following: "The first class of Samoan nurses was graduated this spring, and the exercises were made as interesting and attractive as was possible. The nurses were given diplomas signed by the commandant and governor of Samoa, and they were also given gold pins of appropriate design, on which were engraved the names of the nurses and the date of their graduation. These nurses are now detailed to visiting nursing work in the various outlying districts. At stated intervals they return to the native hospital for review and further instruction. The success of this work in Samoa is demonstrated by the increase in the present class and the number who are now applying for admission in the class of 1918."

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 34.

Old Buildings for Hospital Purposes

This is not a brief for old buildings, and it seems to us that when the purpose for which a building was originally designed no longer exists, that building ought to be torn down and make way for a modern structure.

But this is a critical time. It is an era of hospitalization of the people, and the day is rapidly approaching when every sick man, woman, and child will demand a bed in a good hospital when sickness comes; and when that day comes, the rich and the poor must share alike in the beneficences that the hospital affords—if not in the luxuries, at least in the scientific necessities of sickness.

Approximately 12 percent of the sick people in this country who are ill enough to need a doctor are cared for in the hospitals, and about 88 percent in their homes. If this means anything, it means that the number of hospital beds in this country must grow amazingly in the next few years—not all at once, but in step with the education of the public to demand hospital care.

But hospitals cost money, and already we are building annually approximately $300,000,000 worth of hospital buildings, and we are spending almost an equal sum for the maintenance of hospitals.

If these are the facts—and they are—then we must think about some radical economics in our hospital service. These things will take care of themselves in large, wealthy communities, but out in rural districts and small towns, where there are not individuals of great wealth, but where all the people are in moderate circumstances and able to pay their way, it is going to be necessary to afford hospital service at a minimum cost. Very many of these communities are finding the money to build small, unpretentious modern buildings; but there are many communities that are not so situated, but where a few thousand dollars could be got together if the people could be shown that for so small an amount they could have a decent hospital. In many of these communities there is a large, well-built residence that has served its purpose as such, and is now ready either for wrecking or for any other use to which it can be put. Many of these residences are thoroughly well built, and quite a few of them have such interior arrangements that they could be transformed for hospital use for an extremely modest sum.

Fire protection is one of the very important factors in considering such a building for hospital purposes, but it is not the only factor, and with our modern methods, by way of outside fire stairs, interior chemical apparatus to put out fires in their inception, and by proper fire drill, we can go far toward eliminating fire risks in a one- or two-story dwelling house.

More of these abandoned residences ought to be pressed into service for hospital purposes in small communities. One such hospital in a town is worth more to that community, if properly administered, than dozens of finer hospitals that must be reached by railroad travel of fifty or a hundred miles.

Advertising a Hospital

There is a certain large municipal hospital in this country which, up to two or three years ago, occupied a position in its community that was highly equivocal, to draw the statement mildly. There were frequent eruptions and revolts, and every little while the newspapers of the city would come out with "scare-head" articles about something that had happened to a patient in the hospital; and it seemed to be tacitly understood that in every case where complaint was made by a patient or a citizen, the head of the hospital was automatically held to blame. Presently there came an epidemic in the hospital, due to cross-infection, in which one patient died, whose family created no end of a row. The newspapers took up the matter and really forced an investigation by the board of charity commissioners of the city. Not knowing

how to conduct such an investigation, the board called in a practical hospital man who had been "through the mill," and by his advice the investigation was made a very thorough one.

The investigation revealed two important things: first, that a mistaken policy of economy on the part of the board had deprived the superintendent of a trained assistant, and the superintendent had therefore been compelled to do an immense amount of detail work, which gave him little or no time to think about or transact the larger business of the hospital; second, that the newspapers had not been taken into the confidence of either the hospital board or the superintendent, and, as usually happens, insignificant incidents that came to the newspapers were magnified into heinous crimes.

At the end of the investigation, and at the instance of the board's consultant, an assistant superintendent was appointed who relieved the head of the hospital of all details and gave him plenty of time to look after broader policies and large principles of administration; and a new policy was initiated by which the newspapers were invited to participate in the management of the hospital to the extent at least of knowing all that transpired within its walls, and with a tacit understanding with the newspapers that, while the hospital was entirely prepared to give any information at any time, it would be expected that the newspapers, in their turn, would observe the proprieties by withholding from publication anything that might be inimical to the best good of the institution or of its patients.

From that time until now that institution has grown in popular favor, and is today perhaps the most popular municipal institution in this country. But the compact with the newspapers went farther than merely to give them information; it carried with it a tacit understanding that from time to time the superintendent of the hospital would give out for publication news of a general character in which the community would be kept thoroughly posted as to the character, amount, and scope of work that the institution was doing for the community.

This editorial is prompted by the fact that there lies on the editor's desk a three-column "scarehead" newspaper story, clipped from the leading paper in that city, telling some of the wonders of the city hospital and about some of the humanitarian work that is performed there. Many details are given, personal instances are cited, and the article, excellently written from a journalistic standpoint, touches the human side in every sentence and would likely touch the sensitive spot in the heart of "old Scrooge" himself.

Such articles have been published at frequent intervals during the last two or three years; they have won for the hospital a popularity that has resulted in far larger appropriations at the hands of the city fathers, and these in turn have resulted in far better work, a higher order of service to the sick, and a better hospital in every way, and its value to the community has been increased many fold.

This by way of suggestion for other hospitals that seem to get along badly with the communities which they serve.

The Medical Staff in a Small Hospital

One of the insistent problems in the hospital world of today is that of medical staff organization. It is a problem the solution of which means good or bad hospital service; it is a difficult problem because conditions are so different in different hospitals.

Nearly all members of the medical profession believe, in an abstract way, that a closed staff hospital, either for a large or small institution, is the best form of organization, for the reason that, where the staff is a closed one, responsibility for medical and surgical service can be fixed, and hence the character of work done in the institution is likely to be bettered.

Hospitals agree that a closed staff organization is the best, other things being equal, but very many hospital superintendents insist that other things are not equal. They insist, for instance, that men who form their medical staffs are very many times not the men in the community who have the large practices or who do the best work, and these superintendents say that with a closed staff, and with all other physicians in the community shut out of the hospital, even in connection with private patients, they must lose a large share of the income on which they must depend for their support.

Advocates of the closed staff insist, of course, that the best men in the community must be appointed on these staffs, and that, with the hospital's support and with the exclusion of other medical men in the community, the hospital's chosen staff can soon control most of the medical work of the community. While this is true in a large measure, it is also true that hospital boards cannot be depended on to appoint the best medical men in the profession in their communities to staff membership, and that the appointments are too frequently the result of personal friendships or for financial reasons, or for other unworthy motives.

THE MODERN HOSPITAL has been frequently asked for its advice as to the creation of a medical

staff in the small community hospital. Inquirers have suggested the impracticability of leaving the matter to the board of trustees entirely, and the like impracticability of intrusting the appointments to their medical men.

In a good many of these small hospitals excellent staffs have been created by action of the board of trustees and some of the medical men acting jointly. In one small hospital that the writer knows about three of the foremost medical men of the community were chosen as an advisory committee to the board of trustees, with the announced intention on the part of the board to exclude from the hospital a number of medical men in the community whose presence in the hospital was not desired. The result of the advice of these men has been that that hospital now has a far better group of medical men practicing within its walls. It seems to us that this is an excellent beginning, and that a fine closed staff for that hospital could be formed by the joint action of this same advisory committee of medical men and the hospital board. The board might proceed to nominate a sufficient number of medical men to do the work in the institution, and these nominations could be sent to the advisory medical committee for their action. If these medical men found any fault with any members chosen by the board, they would be required to give their reasons for the rejection of the individuals and to suggest substitutes. With these reasons before them, the members of the board could judge for themselves whether the advisory committee of doctors were playing medical politics or were not basing their judgments on principles that would inure to the best interests of the hospital. If the board found, for instance, that any objections were due to personal grievances or jealousies, they would know that these reasons ought not to be recognized; but it seems to us that with a matter of that sort put squarely up to a committee of local doctors, and with the understanding that their actions were to become public knowledge, they would, in a vast majority of cases, do what they thought was best for the institution.

We do not think very much of the contention on the part of hospital superintendents that any staff that might be named for their institutions would not bring in enough private patients to furnish support for the hospital; that is a short-sighted policy and one that would work out disadvantageously to the hospital for only a very short time, because with a good staff and with good administration the hospital would soon acquire such a reputation that it and its doctors would benefit sufficiently to overcome any loss by any outside physician not desired on the staff.

NAVY'S FIRST COMPLETE HOSPITAL SHIP

Congress Authorizes Building of Special Vessel From the Keel Up—Out-Patient Service Included

The annual report of the surgeon-general of the United States navy for 1916 contains the following regarding the building of a hospital ship: "Congress has authorized in the appropriation bill the first hospital ship to be built as such from the keel up by this or any nation. Plans for this ship, based on long experience with converted hospital ships and the experience of the European war, have been prepared by the Bureau of Construction and Repair in collaboration with the Bureau of Medicine and Surgery. The ship will be an oil burner, designed for a capacity of something over 300 patients in peace time, with a war capacity of over 500. The design incorporates the most advanced features of ship construction, including stabilizers, vacuum cleaning installation, etc. The hospital department will, in addition to its medical, surgical, and contagious disease divisions, include an up-to-date out-patient department for special examination and treatment of men in the fleet requiring special and temporary services. She will also carry in her hold regimental and field hospital medical equipment, including ambulances and other sanitary paraphernalia. When finally completed, it is believed she will represent a model ship of this class for many years to come, and her usefulness may well be expected to continue during the lifetime of those who had a hand in her designing."

On Baby Culture

Some strange admonitions on the care of the baby have been gleaned by a Red Cross visiting nurse from a number of essays by school children in a country town, says the *American Red Cross Magazine*. Sound advice is mixed with bizare reasoning. Quotations from the essays follow:

"Don't let the baby suck its thumb, for there might be a fly on it and it would get the disease of the fly."

"Don't rock the baby, as it will toss its brains."

"If a baby gets beer every day, it won't grow very large and it won't be good in school."

"Rocking is not good for it; it makes them sick and stiff."

"Bad habits are easily made by the mothers, and the babies get wise to it."

"If you give the baby alcohol, he will lose one-half pound every year and will become drunk when he is old."

"Never lift it up by the arms, because it will place them out of place. Never, never, never pick up the baby by the arms whatever."

"The public owes the baby as follows: Pure air and sunshine; pure, cool, fresh, free-flowing air at night; its own private, sufficient covering of fluffy, porous materials, and the chance to be a perfect man or woman."

The Westboro State Hospital, Westboro, Mass., celebrated on December 7 the thirtieth anniversary of its opening. Among those who made addresses was Dr. N. Emmons Paine, of West Newton, first superintendent of the institution and present chairman of the board of trustees. Other speakers were Dr. L. Amos Givens, first appointee as assistant physician; Dr. L. A. Dewey, of the State Commission on Mental Diseases; Dr. H. I. Klopf, of Allentown, Pa.; Dr. John L. Coffin, a former trustee; Dr. John P. Sutherland, of the Boston University Medical School; Miss Eliza T. Durfee, former trustee; and Superintendent Dr. Harry O. Spalding.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

AMERICAN HOSPITAL ASSOCIATION

* * *

Official Bulletin for January—Issued by the Officers of the Association

The first meeting of the officers and trustees of the American Hospital Association was held at the Willard Parker Hospital, New York city, Saturday, November 25, Dr. Robert J. Wilson presiding.

LIFE MEMBERSHIP CERTIFICATE

As a number of applications have been received for life membership, it was decided to formulate an engraved certificate for presentation to each life member on the acceptance of application. The form of certificate was discussed and the secretary instructed to order the number required.

TRANSACTIONS

The desirability of the publication of the proceedings of the association in buckram binding was freely discussed; but, on account of the uncertainty of the amount of funds available, it was decided to postpone action on this matter until the next meeting of the trustees. The secretary was, however, authorized to contract for the printing, selecting the lowest responsible bidder. It was adopted that the price of $1.50 be printed upon the back of the finished volumes. The secretary was instructed to obtain, wherever possible, the cost price for copies of the transactions sent to others than members of the association or to organizations of similar nature to our own that exchange publications.

OFFICIAL PRINTED FORMS

Various changes were authorized in the printed forms used by the association. The standard letterhead was approved, upon which will be printed the name of the association, the names of the president, secretary, and treasurer, and the address of the headquarters, which will be that of the office of the secretary. The form of the application blank was also changed to more nearly comply with the requirements.

BUSINESS PROCEDURE

The present method of conducting the business of the association with respect to the handling of applications for membership was discussed with the object of simplifying the methods, relieving the unsalaried treasurer from some of the burdensome routine work now performed by him, and, if possible, of increasing the efficiency of the work. It was the opinion of those present that as much of the business as possible should be transferred to the paid secretary's office, and that the duties of the treasurer be changed to those of custodian of the funds and controller. In order to effect these changes, the following was adopted:

"That, subject to the approval of the treasurer, the secretary be authorized to receive all applications for membership and payment for dues, and to cause notices of arrears to be issued, and that, as agent for the treasurer and subject to his approval, the secretary be authorized to pay all accounts and to render a statement of his receipts and expenditures to the treasurer in such form as the treasurer may require."

COMMITTEE ON HEALTH INSURANCE

A special committee on health insurance was discussed, and it was suggested that, when appointed, this committee should cooperate with a similar committee of the American Nurses' Association and with any other organization that might be interested in the subject. This committee will have a big problem to consider, since legislation on this subject is proposed in many states. Health insurance involves a reconsideration of many hospital customs and practices of great antiquity, as, for instance, the treatment of patients in the dispensary either free of charge or for a nominal sum. It is expected that this committee will not only advise the hospitals as to the best way of adapting themselves to the new order of things, but that it will point out the phases of the new legislation that will, if not carefully studied, adversely affect our institutions. Too often we have sat supinely by while legislation has been enacted that gave little or no consideration to the interests of those most concerned; but, from hints as to the makeup of this committee, assurances may be given that the American Hospital Association will receive a report on this important subject that will serve as an intelligent guide for all hospitals in America.

CONFERENCE WITH THE AMERICAN COLLEGE OF SURGEONS

The committee of three to confer with the American College of Surgeons, of which Ex-president Smith will be chairman, was discussed and arrangements made for an early meeting. Those who heard the able paper read by a representative of the American College of Surgeons will fully realize the extreme importance of this committee, and the very many real obstacles and difficulties that have hitherto confronted former committees of a similar nature in attempting to either classify or standardize hospitals. The deliberations of this conference committee will be of special importance, since they will express the opinion of two powerful groups, both working in harmony and coordination, and with a sufficient fund available for the necessary expense entailed.

COMMERCIAL EXHIBIT

The commercial exhibit was discussed, and it was definitely decided that this activity of the association should be entirely controlled by the trustees, under the management of the secretary. By relieving the local committee of the vast amount of specialized work and responsibility connected with this undertaking, that committee will be enabled to concentrate on the many important details connected with the reception of a large organization.

FISCAL YEAR

The present custom of collecting dues for parts of two years was discussed, and the disadvantage of this method was considered. The secretary and treasurer were instructed to consider the prospect of a change, so that dues might be paid for a period of one year from January 1 rather than the period between conventions, and to report on its feasibility, with recommendations, at the next meeting of the trustees. At the present time much confusion exists as to just when dues are payable, and, while many members meet this obligation at the time of the convention, others await the receipt of a bill. It was thought advisable to readjust this matter, so that our practices would

more nearly coincide with those generally adopted by other organizations.

BULLETINS OF THE ASSOCIATION

The publication of bulletins of the association was considered a step in the right direction, and the secretary was authorized to make such arrangements for the publication of association news in THE MODERN HOSPITAL, or other suitable publication, as will assure the widest publicity to our activities. It was further expressly provided that such news items should not be denied any reputable publication seeking them.

INFORMATION AND REGISTRATION BUREAU

The secretary was empowered to conduct, as far as possible, the bureau of registration and for the exchange of information. He was further authorized to register the names of applicants for positions in hospitals, opportunities for hospital employment, and answer inquiries relating thereto, providing that the association shall not indorse or be in any way responsible for the character or qualifications of applicants or the standard of the hospital seeking such service. It is the earnest hope of the trustees that this project shall be undertaken under the most favorable circumstances, and for this reason it is expressly stipulated that, for the present at least, the association shall simply undertake the registration and exchange of information, and the registration of the names of those seeking either a position or a suitable candidate to fill a vacancy. As this bureau grows, it is likely that greater responsibility will be assumed, and that it will expand to the proportions contemplated in various committee reports submitted to the association; its growth, however, depends on the cooperation and assistance forthcoming from the members of the association, for whose benefit and assistance the enterprise has been inaugurated.

APPOINTMENT OF SECRETARY

The trustees decided that it was both advisable and practicable to appoint a salaried secretary, although this step was considered in the nature of an experiment, subject to reconsideration if the finances of the association would not permit its continuation. After the presentation of the qualifications of Dr. Wm. H. Walsh, of Philadelphia, his nomination was favorably considered, and he was duly appointed to the position for one year.

HEADQUARTERS

The secretary was authorized to establish an office, where the permanent headquarters of the association shall be located, whence all the business of the organization shall be conducted.

MATTER OF MEMBERSHIP

"Are you a member of the American Hospital Association?" If you are a member, this is a question you should ask every other hospital official whom you meet. If you are not a member, we would like to know why? Perhaps someone remains outside the fold because he or she does not realize the advantages of membership. If so, an inquiry addressed to the secretary will bring you a statement in detail and some information about the organization. It is becoming increasingly difficult to find a progressive hospital worker whose name is not already on our lists, and the membership roll of the American Hospital Association records the names of almost every prominent hospital executive in the United States and Canada.

Autopsies—Their Value, Methods of Obtaining, and Protection of the Hospital[1]

BY M. C. WINTERNITZ, Associate Professor of Pathology, Johns Hopkins University.

The most convincing evidence of the importance of postmortem examination may be found in the history of medicine. Through many centuries pathological anatomy, the basis of physical diagnosis and scientific therapy, became established by the systematic performance of autopsies.

The overthrow of the empirical medicine of the ancients came with the dissection and the study of the more intimate anatomical structures of the human body nearly 2,000 years after the establishment of scientific medicine by Hippocrates (460-377[?]B. C.).

In the writings of Vesalius (1414-1465), followed by those of Fallopius (1523-1562), Eustachius (1520-1574), and many others, many observations of morbid anatomical structure may be found. Beneviene (1440-1524), the pioneer in pathological anatomy, as well as his successor, Théophile Bonet (1620-1689), confined his attention mainly to a collection and description of monstrosities and curiosities.

Morgagni (1682-1771) was really the first to grasp the significance of pathological anatomy. He correlated the changes in the body found after death with the symptoms of disease, and incorporated his studies in a volume entitled, "De Sedibus et causis morborum per anatomen indagatis." His work was objective, based on personal observation at the post-mortem table, and marks one of the great epochs in medicine. Matthew Bailie (1761-1823) followed Morgagni closely with book and atlas.

Then came Bichat (1771-1802). He emphasized tissues, not organs, as the seat of disease—histology without the microscope. His views were based on sound observation, and had an important bearing on that most brilliant period of French medicine, the first thirty years of the nineteenth century, illuminated by the work of Corvisart (1755-1821) and Laennec (1781-1826). Through him they saw in pathological anatomy the foundation of physical diagnosis. Their work bore fruit immediately in England, where Bright (1789-1858), Hodgkins (1798-1866), and Addison (1793-1860) correlated the clinical and anatomical pictures of their cases as indicated in part by the diseases which bear their names. Likewise in Vienna the cooperation between Rokitansky (1804-1878), whose knowledge of pathological anatomy has probably never been equaled, and the clinician, Scoda (1805-1881), created a school of medicine which became famous throughout the world as the best opportunity to study the relation of symptoms to the organic changes in the body. This was a period of exaggeration for pathological anatomy. So much emphasis was laid on the anatomical changes in the organs and tissues, and these seemed so irreparable, that therapeutic nihilism was a natural consequence. This, in its turn, led to the rational therapy of today.

Rokitansky had laid the cornerstone of modern general pathology, and particularly of pathological histology. It remained for Virchow (1821-1902) to establish cellular pathology. This is his great monument. His influence on the progress of medicine cannot be overemphasized. He eliminated speculation, and recognized only actual deductions based on observation. He emphasized much more strongly than any of his predecessors the importance of objective knowledge in pathological conceptions. He taught that every physiological process possesses an anatomical corollary, and that disease consequently finds ex-

[1]Read before the eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

pression in anatomically visible change. Cohnheim (1839-1884), Virchow's pupil, concentrated on the field established by John Hunter (1728-1793)—namely, experimental pathology, which has won such an important position in the progress of medicine.

During the present generation medicine has advanced very rapidly. Through bacteriology the direct cause and prevention of many diseases have been determined. The application of new methods, largely derived from progress in other purer sciences, physics and chemistry especially, have also played an important role. These have led so rapidly to the creation of new phases of medicine that for the moment, perhaps, it is necessary to stop and consider the role of the autopsy in the medicine of today.

The autopsy furnishes the only means of teaching the student pathological anatomy; it controls clinical diagnosis and therapy; it is the only reliable evidence on which vital statistics may be based, and it is a constant source of problems necessary for the advancement of medicine. Naturally, therefore, the greatest benefit is derived from the autopsy in an institution where teaching is combined with clinical and research facilities. The realization of this has made pathology the most important link between the hospital and the medical school. The more intimate this affiliation, the closer the proximity of the two institutions, the greater are the mutual advantages.

The autopsies from the hospital are essential for the teaching of the medical student. Only under exceptional circumstances is it possible for the hospital to have the laboratory facilities and the large and efficient staff which affiliation with a teaching institution offers. The pathologists of such an institution not only constantly augment their knowledge by the correlation of the clinical and anatomical findings with physicians of the hospital, but the oft-repeated review necessitated in the teaching of the elementary aspects of the subject frequently opens new avenues of approach to unsolved problems.

A department of pathology as outlined above not only furnishes teaching facilities, but is a means of deriving great benefit from the autopsy and its subsequent study. Briefly, it must have facilities for the post-mortem examination, equipment for the histological examination of the tissues, including the more specialized types of apparatus required for neurological and other more or less specific branches of clinical pathology; laboratories of experimental pathology, including bacteriology, physiology, chemistry, and, finally, a recording department where the completed files of the autopsy may be analyzed to the best advantage. This is only the shell; more important needs are men specially trained in these various branches to direct the work. The subject has outgrown the scope of the individual.

The student comes to such a pathological laboratory after he has dissected one-half of the human body. He has a practical knowledge of the skeletal system and, most valuable of all, if he has acquired it, independence of thought and work. His knowledge of gross anatomy is based on the limited dissection of the skeleton and the much more limited opportunity to study the viscera, and then only in embalmed bodies. His knowledge of histology is based on a few typical tissues, usually animal tissues, and, as a rule, he has little conception of gross and microscopic anatomical correlation.

The autopsy may be made to appeal strongly to the student. It deals with diseases in man, the subject he has elected as his life work, and brings him into much more intimate contact with clinical medicine. After he sees a large number of autopsies, he is able to recognize the physiological range of variation in organs and tissues, and then the more gross and characteristic anatomical manifestations of disease. This knowledge is not easily acquired, for he must first learn to look at things as they are, to see what they really show, and not as he has read they should be. In short, he must acquire the power to see things objectively. He can often make a diagnosis from a description similar to one which he remembers from a book, although the object or condition itself, when shown to him, will remain unrecognized. Familiarity with gross pathology can be acquired only at the autopsy table. Here, too, the student has the opportunity of correlating the gross and microscopic anatomical picture. He sees and makes sections of the gross tissues which he has studied. His opportunities do not stop here. He sees the lesions produced by bacteria in man which he has heretofore been able to study only in the test tube or, at most, by animal inoculation. He has the opportunity of studying these bacteria in smears, by cultivation, and by inoculation into animals. He studies the resultant lesions and finally recultivates the bacteria in many cases. In only this way can he be made to realize the importance of Koch's postulates in the etiology of disease. In this way, too, he learns the difference between the organism he has studied in his course in bacteriology, often attenuated by long artificial cultivation, and the virulent organism freshly removed from its parasitic existence. Likewise he has the opportunity of doing immuniological tests upon the tissues of the host and the parasite. But the student's opportunities do not even end then. He hears the results of chemical, physiological, and other studies carried out in the various laboratories of experimental pathology, and not infrequently the opportunity to share in a small part of a problem in such a laboratory stimulates him to psychic independence.

The advanced student and the clinician return to the post-mortem room with questions. They know the clinical history, and they are interested in the many problems the case presents. They acquire in this way an anatomical picture which they correlate with their clinical findings. The more autopsies the clinician has seen, the keener is his interest. He views future cases from the composite mental picture he has formed at the autopsy table, and modifies his diagnosis, prognosis, and treatment accordingly with scientific accuracy.

The complete study of an autopsy has become so complicated that the routine procedure alone requires days and even weeks. The advanced student and the clinician should know the result of these investigations, and for this purpose the modern clinical pathological conference serves admirably.

There are two types of conference. The older, used essentially to compare briefly the anatomical and clinical aspects of cases for medical students, a teaching conference, where, as a rule, it is impossible to enter in detail into the more obscure aspects of the case. The modern autopsy demands a more advanced type of conference, where, after a brief presentation of the clinical aspects, together with charts, x-ray plates, etc., the anatomical demonstration of the organs is supplemented by gross and microscopic pictures of the important lesions of the case, and by reports from the bacteriologist, chemist, and others engaged in the unraveling of the various problems that have presented themselves. This is all done very briefly, and is followed by a discussion in which many of the faculty, which should be well represented, join. Such conferences give a new impulse to research, and many interesting problems have evolved through them from the autopsy.

The proper recording and filing of the autopsy protocols make them one of the hospital's most valuable assets. The protocol should be an objective description of the autopsy, made during its procedure. It should be supplemented by a synopsis of the clinical history and by the objective description of microscopic sections, primarily of tissues, the seat of gross lesions, but also from all other important organs of the body. The results of special investigation in the various units of the laboratory of experimental pathology should likewise be recorded with the case. Photographic illustrations of gross and microscopic lesions add greatly to the clearness of the description. The anatomical diagnosis should not be written until a complete study of the case has been made. A provisional anatomical diagnosis may be made at the time of autopsy for the convenience of the members of the staff of pathology as well as for the clinician, but it is evident that, since the ideal anatomical diagnosis is the sequential statement, not only of the anatomical changes, but also of the results of laboratory study in relation to immediate and ultimate cause of death (as well as a tabulation of subsidiary findings), it cannot be completed until all the evidence is at hand.

Records completed in this way can be made of the greatest value. They not only furnish an ever-increasing basis for research in specific diseases, but on their analysis the inaccurate vital statistics of today will ultimately be corrected.

In the evolution of man new medical problems will constantly present themselves, and in their study the role played by the autopsy in the successful combat of similar problems of the past will repeat itself. The most accurate knowledge we have of the scourge of the present day, infantile paralysis, is its pathological anatomy. Without the autopsy the diagnosis even of this disease often cannot be attained. From the anatomical picture the clinical manifestations of the disease are readily understood and its successful transmission to animals has been verified. Its histology, comparable to that of other infectious diseases, will aid in establishing its etiology and ultimately may help in unraveling its portal of entry and dissemination in the body.

This brief review has been made in an attempt to emphasize the importance of the autopsy for the progress of medicine. The knowledge gained through the post-mortem examinations of the past is permanent. The problems still to be solved are very numerous, and in these not only must the autopsy play its role, but it must be performed in ever-increasing numbers for its value in fundamental medical education. The student must learn pathological anatomy. The physicians who have been taught to think anatomically must be given opportunity to enlarge their experience. The community must have accurate vital statistics. It is not sufficient that post-mortems are carried on in large numbers in Europe—they must be performed in every country, in every community, if the health of the public is to be safeguarded.

There is, unfortunately, a great discrepancy between the number and percentage of autopsies in the larger European hospitals and those of the United States. This has been emphasized recently in the report of the Committee of the New York Academy of Medicine.[1] To facilitate comparison, the figures in their tables have been calculated for a period of three years and are presented in table I.

TABLE I.

Number of autopsies		Canada		England		Germany		Austria[1]		United States	
(A) Total	(B) Percent	A	B	A	B	A	B	A	B	A	B
1–25	1–10	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
25–50	10–20	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
50–100	20–30	.....	1	.....	.....	.....	.....	.....	.....	2	4
100–250	30–40	1	.....	.....	.....	.....	.....	.....	.....	5	1
250–500	40–50	.....	.....	.....	.....	.....	.....	.....	.....	5	1
500–1,000	50–60	2	.....	1	1	2	.....	.....	.....	5	.....
1,000–1,500	60–70	.....	1	2	.....	.....	.....	.....	.....	.....	1
1,500–2,000	70–80	.....	.....	2	2	.....	.....	.....	.....	.....	.....
2,000–3,000	80–90	1	.....	.....	2	.....	3	.....	.....	.....	.....
3,000	90–100	.....	.....	1	.....	4	3	1	1	.....	.....

[1]The combined statistics of eight Austrian hospitals have been omitted. The numerals in the various columns A and B represent the number of institutions in the countries indicated that have a total number of autopsies (A) and a percentage ratio of autopsies to deaths (B) to correspond with the respective figures on the left of the chart.

This table shows not only how few autopsies are performed in a number of representative hospitals of the United States compared with those of the other countries, but it suggests that there may be an almost proportionate variation between number and percentage. Further analysis of the individual hospitals in this country shows that such relationship does not hold.

TABLE II.

Hospital	Autopsies	
	Total number	Percent
1	61	39.6
2	76	10.
3	104	16.8
4	117	13.1
5	120	17.2
6	158	7.3
7	167	26.9
8	281	24.5
9	284	29.6
10	313	23.
11	346	62.6
12	408	9.2
13	670	45.1
14	779	7.5
15	813	13.7
16	927	14.3
17	998	10.

Recently published data from several hospitals in the United States show a marked improvement in the ratio of autopsies to deaths. The director of the Pathologic Institute of the Cincinnati General Hospital, Dr. Paul G. Wooley, reports that between June 1 and December 31, 1915, 293 necropsies were held from a total of 465 cases, a percentage of 63[2]. Since the Robert Bent Brigham Hospital, Boston, opened on April 1, 1914, complete autopsies have been carried out on 70 percent of all those dying (35 autopsies in 50 deaths),[3] and at the Mayo clinic during the triennial period, 1910-1912, in 626 deaths, 512 necropsies

[1]Report on Post-mortem Examinations in the United States by Public Health, Hospital, and Budget Committee of the New York Academy of Medicine; Jour. Am. Med. Assn., 1913, vol. LX, No. 23, p. 1784.

[2]More Good Autopsy Figures; THE MODERN HOSPITAL, 1916, vol. VI, p. 376.

[3]Recent Necropsy Records in the United States; Jour. Am. Med. Assn., 1916, vol. LXVI, pp. 1706-1707.

TABLE III

Hospital	Number of deaths	Percent of autopsies	Requests for autopsy		Signature required
			Percent	By whom	
Mayo Clinic	1910, 198 1911, 200 1912, 227 1913, 269 1914, 293 1915, 338	81. 86. 86. 84. 88. 95.	100	Pathologist	Person who obtains permission
Pennsylvania	1910, 349 1911, 328 1912, 303 1913, 339 1914, 379 1915, 286	33.8 27.3 27.5 36.4 35.5 40.	90+	Physician	Verbal consent
Presbyterian	1910, 433 1911, 398 1912, 323 1913, 286 1914, 306 1915, 278	28.9 20.4 25.1 29.3 35.6 40.	100	Physician	Relatives, hospital superintendent, obtainer
Worcester City	1910, 407 1911, 381 1912, 423 1913, 473 1914, 473 1915, 538	9.8 4.9 9.2 7.8 7.4 4.4	50	Physician	Relatives
Montefiore	1910, 105 1911, 124 1912, 106 1913, 104 1914, 197 1915, 228	26.07	50	Hospital superintendent	Witnessed by two relatives
Cincinnati General	1910, 223 1911, 93 1912, 95 1913, 70 1914, 71 1915, 369	? ? ? ? ? ?	100	Physician, hospital superintendent, undertaker	Relatives, hospital superintendent
Michael Reese	1910, ? 1911, ? 1912, ? 1913, ? 1914, ? 1915, ?	? ? ? ? ? ?	?	Physician	Relatives, hospital superintendent, obtainer
Lakeside	1910, ? 1911, 232 1912, 213 1913, 148 1914, 222 1915, 243	? 40. 40. 43. 38. 44.	100—	Physician	Relatives, hospital superintendent, obtainer
Grace	1910, ? 1911, ? 1912, ? 1913, ? 1914, ? 1915, 317	? ? ? ? ? 9.1	25	Physician	Relatives, obtainer
Boston City	1910, 1,663 1911, 1,833 1912, 1,834 1913, 1,891 1914, 1,827 1915, 1,932	10.2 6.1 5.5 5.3 6.8 8.8	65	Physician	Relatives, obtainer
University Philadelphia	1910, 303 1911, 271 1912, 249 1913, 308 1914, 290 1915, 310	14. 12. 18. 14. 17. 20.	50	Physician	Relatives, obtainer
Buffalo General	1910, 280 1911, 340 1912, 344 1913, 355 1914, 360 1915, 368	13. 11.+ 12.+ 12. 13. 11.	50	Physician	Relatives, hospital superintendent
New York	1910, 690 1911, 708 1912, 663 1913, 606 1914, 592 1915, 562	22.89 23.44 28.05 26.07 22.12 27.4	100	Physician	Relatives, hospital superintendent, obtainer
New Haven	1910, 254 1911, 235 1912, 268 1913, 307 1914, 332 1915, 299	15. 8. 9. 9.+ 9. 10.	?	Physician	Relatives
Cleveland City	1910, ? 1911, ? 1912, 644 1913, 842 1914, 755 1915, 845	? ? 18.3 16.7 21.9 23.4	50	Physician	Relatives, hospital superintendent, obtainer
Mt. Sinai	1910, 646 1911, 719 1912, 738 1913, 705 1914, 607 1915, 750	23. 21. 20. 10. 12. 14.	?	Physician, hospital superintendent	Relatives, hospital superintendent, obtainer

TABLE III. (Continued from page 39.)

Hospital	Number of deaths	Percent of autopsies	Requests for autopsy		Signature required
			Percent	By whom	
University of California	1910, 66 1911, 51 1912, 43 1913, 80 1914, 101 1915, 112	20. 41. 58. 52.5 59.4 73.2	50	Physician	Relatives, hospital superintendent
Massachusetts General	1910, 450 1911, 475 1912, 470 1913, 428 1914, 426 1915, 405	56.+ 45.— 34.+ 34.+ 27.+ 28.—	100	Physician	Relatives, hospital superintendent, obtainer
Barnes	1910, ? 1911, ? 1912, ? 1913, ? 1914, 2 1915, 98	? ? ? ? 50. 50.6	100	Physician	Relatives, hospital superintendent
St. Louis Children's	1910, ? 1911, ? 1912, ? 1913, ? 1914, 8 1915, 145	? ? ? ? 50. 75.	100	Physician	Relatives, hospital superintendent
Bellevue	1910, ? 1911, ? 1912, ? 1913, ? 1914, ? 1915, ?	10.	?	Physician	Relatives, hospital superintendent, obtainer

were made, or 81.8 percent; in 1913 there were 269 deaths and 227 necropsies, or 84.4 percent; in 1914, 293 deaths and 258 necropsies, or 88 percent, while to date (March 17, 1915) there have been 73 deaths with 73 necropsies, or 100 percent.[1]

These percentages, unequaled by any other institution in the United States and by few abroad, as well as by our own experience at the Johns Hopkins Hospital and the city hospitals at Bay View, Baltimore, have led to the belief that an inquiry into the method of obtaining autopsies, the use made of the autopsy material, etc., from a group of large institutions, might be of interest. A circular letter was therefore sent to the superintendents or the pathologists of a number of hospitals in the United States. Twenty responses were received.[2] The results of this investigation are, in part, tabulated in tables III and IV.

In nineteen of the twenty-one hospitals included in the investigation, there has been no notable change in either the total number or percentage of autopsies during the past six years.

If, however, the ratio of autopsies to the number of deaths for any year—say, 1915—be compared with similar data (column B, table I) from the report of the Committee of the New York Academy of Medicine, the result is very surprising, especially if the twenty-one hospitals included in this investigation are supplemented by the Robert Bent Brigham Hospital, Boston, the Johns Hopkins Hospital, and city hospitals, Bay View, Baltimore, for the same year.

TABLE IV.

Column B Invest'n of Com. N. Y. A. M.	Percent of autopsies	Column A Present invest'n
5	1–10	5
5	10–20	3
4	20–30	4
1	30–40	2
1	40–50	2+1=2[3]
..	50–60	1
1	60–70	0+2=2+[4] [5]
..	70–80	2
..	80–90	1
..	90–100	0

[1]Wilson, L. B., The Necropsy as a Public Service; Jour. Am. Med. Assn., 1915, vol. LXIV, No. 19, p. 1560.

[2]I wish to take this opportunity of thanking the superintendents and pathologists of these institutions for their kind cooperation.

[3]City Hospital, Bay View, Baltimore, 45.4 percent for 1915.

[4]Johns Hopkins Hospital, 1915, 65 percent.

[5]Robert Bent Brigham Hospital for 1914, calculated as 63 percent.

The comparison in table IV is encouraging, more so perhaps since eleven of the hospitals included in column B of this table (present investigation) are also included in column A (Report of the Committee of the New York Academy of Medicine). While there are still a large number of hospitals with a small percentage of autopsies, and many of these have a large number of deaths, nevertheless it is evident that there is an increasing group of institutions where the percentage of autopsies is high. Perhaps the selection of hospitals was fortuitous, and it is probable further investigation of many more institutions would yield a still different result.

REQUESTS FOR AUTOPSIES

It is very surprising, indeed, that in such splendid hospitals as are represented in the present investigation an attempt is not made to obtain an autopsy for every death. This, unfortunately, is not the case for the majority. Only nine of the twenty hospitals request permission in 100 percent of the fatal cases, one in 90 percent, and seven in from 25 to 65 percent. The remaining four gave no definite information on this point.

It may be said with certainty that as yet the people of the United States have not reached that stage of evolution when they will request the institute to perform autopsies.

Permission for the performance of the autopsy is requested by a number of different people. For convenience, these may be grouped under physician and hospital superintendent. Physician includes intern, resident and attending, hospital superintendent, assistant, and lay clerks. The physician requests permission for the autopsy in twelve, the hospital superintendent in two, both physician and hospital superintendent in six, and in only one case is the responsibility delegated to the pathologist alone. The physician succeeds in from 5 to 44 percent, the hospital superintendent in 28 to 75 percent, the physician and hospital superintendent in 4.4 to 23 percent, and the pathologist in 95 percent. It is dangerous to draw deduction from such an analysis as the above. It is not "who," but "how."

Dr. Summersgill, superintendent of the University of California Hospital, where they have been so successful in increasing the percentage of autopsies recently, was kind

enough to comment on the question: "I have observed many times that a clever lay clerk will secure more post-mortems than an ordinary medical man, as it is a natural tendency for so many unintelligent people to believe that a physician is hard-hearted and desires a post-mortem mainly to satisfy his curiosity, and for that reason I believe that a good lay clerk can secure better results with this class of people than a medical man."

In a recent publication,[1] Wilson emphasizes that one person only, the pathologist or his assistant, should be allowed to present the subject of necropsy to the relatives of the deceased. Although the senior fellow in pathology, who is delegated to this duty by Dr. Wilson, serves only six months, the fact that their necropsy service has not fallen below 80 percent in the last six years is sufficient evidence that success in obtaining permission for post-mortem examination is not entirely a matter of personality, but more largely one of "training in placing proper argument before the relatives."

Answer to the question, "what do you consider the most successful argument in obtaining autopsies," could hardly be made in detail in the brief space allotted to it in the circular letter. The information received, however, shows a certain uniformity of method. The stock arguments are (1) the importance of the autopsy in determining the true cause of death, (2) the benefit derived from this knowledge by the family, (3) by the hospital, (4) by the science of medicine and humanity, (5) the aid of the exact cause of death as revealed by the autopsy in the settlement of insurance claims.

The answers to several other questions may be summarized here, for they have a definite bearing on the two arguments which are most widely used in obtaining permission for autopsy.

In no instance does the hospital make any effort to inform the family of the result of the post-mortem examination. Many of them are willing to do so when requested, and many of them feel that it should be done only when necessary. The benefit, therefore, to the family can be only a remote one, and conditions frequently revealed by the autopsy, important for the immediate or future welfare of the family, remain unknown to them.

One of the ways in which autopsies may "help others" is through correct vital statistics. The answers to the query, "are health certificates completed in conformity with the anatomical findings," are difficult to understand. Three institutions gave an indefinite answer, such as "more or less," "when possible," and "fifty-fifty;" one in "cancer cases, otherwise not;" four answered "no," and the other remaining twelve said "yes." One of the latter, Bellevue Hospital, New York, has a special form for this purpose, which Dr. Norris was kind enough to inclose in his reply, with the following note:

"Owing to the difficulty and delay caused in sending the death certificate book to the pathological laboratory to fill in the autopsy findings, and because death certificates are given to the undertakers in order that they may obtain removal permits more promptly, the Department of Health has issued a blank entitled, 'Return of Autopsy Findings,' which I inclose. The anatomical diagnosis is filled out on this sheet."

The New York State Board of Health may be congratulated on this method, which is the only way in which vital statistics can be accurately compiled. It would be gratifying indeed if similar methods already had been adopted in all of the hospitals that answered the query in the affirmative. Unfortunately the information obtained in this investigation is not far-reaching enough to say this with certainty, and it is feared that it is not the case.

RETURN OF AUTOPSY FINDINGS

Date.....191..

To the Department of Health:

The results of the autopsy performed on the body of

.....

who died at.....

(Name of institution)

on.....are as follows:

(Date)

.....

.....

.....

.....

.....

Signature.....

Pathologist.

In Maryland, for instance, the death certificates must be completed before the burial permit is granted, and as a consequence it is usually filled out with the clinical diagnosis. In obscure cases, where the clinical diagnosis is not definite, the completion of the death certificate is delayed until the gross anatomical findings are known. Even with this knowledge, however, the anatomical diagnosis is incomplete in a large number of cases until histological, bacteriological, and other special investigations have been made. Consequently this information, invaluable in the compilation of vital statistics, is, at best, buried in the records of the hospital. Without more definite knowledge, it may be assumed that the condition in the state of Maryland is not unique.

With the aid of the Prudential Life Insurance Company an investigation of the autopsy records, which includes a comparison of the clinical and anatomical diagnosis with the records of the State Board of Health—namely, the certified and classified cause of death—has been undertaken in Baltimore at the Johns Hopkins and city hospitals. The information derived from this study will undoubtedly assist in determining the accuracy of vital statistics.

It is evident from the following note kindly included in the answer of Dr. A. R. Warner, of Cleveland, that the undertaker may be of aid in obtaining autopsies. He says: "Recently I was at the Cincinnati Hospital, and I find that there is in use there a cooperation between the hospital and a school of embalming, whereby the school of embalming embalms, free of charge, all bodies autopsied. It is understood between this school and the city undertakers that this will be done in all autopsied cases, and the undertakers do not therefore object to autopsies. The embalming is done for them and well done, and they collect the usual fee. It is, therefore, for their interest to have autopsies, and the usual antagonism is entirely missing. This has been a great help to them in securing autopsies."

At the Johns Hopkins Hospital all autopsied bodies have been embalmed for the past three years, and it has had a similarly good effect in conciliating the undertaker to the delay the post-mortem frequently imposes. Occasionally, however, in the request for permission to perform the autopsy the fact that the body is embalmed by the hospital free of charge has been utilized with success as an argument. The possible conflict here should be avoided.

From the answers received it is apparently not of moment, as far as the success in obtaining post-mortem examination is concerned, whether the institution requires

[1] Wilson, L. B., The Necropsy as a Public Service; Jour. Am. Med. Assn., 1915, vol. LXIV, No. 19, p. 1560.

the signature of the nearest relative, the hospital superintendent, or the individual who obtains permission. The Mayo clinic, for instance, with the highest percentage of autopsies, requires only the signature of the person who obtains permission, while at the University of California, where the percentage of autopsies has increased from 20 to 73 in the past six years, the signature of the nearest relative and that of the hospital superintendent are both required. Undoubtedly the latter method will insure a maximal protection to the institution. On the other hand, despite the result of the present investigation, it is generally assumed that the necessity of obtaining the signature of a relative, particularly from the more ignorant, may result in failure, when a verbal consent for necropsy would be granted. Such a signature, if not absolutely necessary for the protection of the hospital, should be eliminated.

The experience of the past few years at the department of pathology of the city hospitals, Bay View, Baltimore, may be of interest. At Bay View the municipal alms house and the hospital are closely affiliated and are under the direction of the same superintendent. In 1912 the work in pathology was reorganized. With a small expenditure of money the facilities for post-mortem examinations were made attractive, and a laboratory for histological, bacteriological, and chemical studies was equipped. A resident was appointed, and under his direction the interns of the various clinical branches performed the autopsies during a part of their service. The autopsies were carefully studied and recorded. A weekly clinical pathological conference was inaugurated, and the material from the autopsies further utilized for the teaching of gross morbid anatomy to the students of two of the medical schools of the city.

Before 1912 the post-mortems were performed at the city hospitals by the resident pathologist of the Johns Hopkins Hospital or one of his assistants. He had to carry with him the autopsy kit, and he brought back such material as he was personally interested in, or that he felt was essential for his course in gross morbid anatomy. He rarely knew anything of the clinical aspects of the case, and the only record of the autopsy was a hasty anatomical diagnosis based on the gross findings alone. The result of the reorganization was very gratifying. The autopsies increased in total number from 75 to 297, and in percentage from 12.3 to 60. A friendly rivalry sprang up among the interns and the residents of the various clinical branches to obtain autopsies. Recent graduates were attracted by the possibility of supplementing their clinical work with the experience in pathology, and made the problem of securing competent interns less difficult. Several of these interns have subsequently increased the interest in pathology and greatly assisted in augmenting the number of autopsies in other institutions where they have since been located.

At the Johns Hopkins Hospital the number and percentage of autopsies has also increased during the past few years, as is evident from the table below.

CONCLUSION

In order to obtain large numbers of autopsies, it is necessary to request them in every fatal case. It does not suffice that the individual who seeks permission for the post-mortem examination is interested in the outcome of his argument—everyone in the institution must be anxious for him to be successful. The only way this can be accomplished is to give to each one a return for this interest and cooperation. The physician and the hospital superin-

JOHNS HOPKINS HOSPITAL.
TABLE SHOWING PERCENT OF AUTOPSIES.

Year	Medical service.		Surgical service		Gynecological service		Obstetrical service		Pediatric service		Psychopathic service	
	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies
1911	122	74.5	136	33.0	25	36.0	10	40.0	.....	.....	.....	.....
1912	151	70.8	116	31.8	27	25.8	11	81.8	.....	.....	.....	.....
1913	108	85.1	107	34.5	22	36.3	4	17.5	92	57.6	5	100.
1914	107	76.6	83	40.9	15	40.0	38	24.2	123	57.7	9	55.5
1915	96	70.8	96	65.6	21	52.3	27	70.3	138	59.4	13	61.5

Year	Total number of deaths 1911–1914	Total number of autopsies 1911–1914	Percentage of autopsies 1911–1914
1911	293	149	50.8
1912	305	160	52.4
1913	338	203	60.
1914	375	211	56.2
1915	392	251	64.

MONTHLY TABLE SHOWING PERCENTAGE OF AUTOPSIES, JANUARY TO SEPTEMBER 19, 1916.

Month	Medical service.		Surgical service		Gynecological service		Obstetrical service		Pediatric service		Psychopathic service	
	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies	Number of deaths	Percent of autopsies
January	7	100.	9	55.5	1	100.	10	80.	7	42.8	1	.....
February	7	71.4	5	60.	1	100.	9	88.6	12	66.6	2	100.
March	5	60.	11	81.8	2	100.	6	100.	13	69.2	1	100.
April	17	82.6	9	44.4	2	100.	6	100.	15	73.5	.....	.....
May	12	83.4	6	50.	2	100.	10	80.	13	53.5	.....	.....
June	16	62.5	8	25.	3	100.	11	81.8	9	77.7	.....	.....
July	7	85.7	10	70.	1	100.	6	100.	23	43.4	1	.....
August	8	75.	3	66.2	3	66.2	11	81.9	17	65.	.....	.....
September	3	100.	2	50.	.....	.....	4	75.	5	80.	1	.....

SUMMARY—Number of deaths, 368. Number of autopsies, 261. Percent of autopsies, 70.9.

tendent must realize the benefit that accrues to him individually from the systematic performance of post-mortem examinations. As important as these individuals may be, the family and community are even more so. They should not only benefit through the educational value of the autopsy to student and physician, but the family should be told honestly, fully, and in simple language just what the findings are, the bearing these may have on the health of its other members, and, as far as this is possible, they should be told how they can protect themselves. The community should be given accurate vital statistics.

When all concerned realize that they are constantly receiving a return for their interest and cooperation in increasing the number of autopsies, it will no longer be necessary to discuss methods of obtaining them and protection for the hospital—autopsies will be demanded.

What the Intern Should Contribute to the Team-Work[1]

BY E. H. BECKMAN, M. D., Rochester, Minn.

In the consideration of team-work in any hospital, the working force of the institution must be taken into account. In the hospital of today we have:

1. The Departments Interested in the Executive and Business Management.—These are constituted by the general superintendent and his staff, whose duties should be strictly of a business and executive nature, and have no connection with the medical aspects of the hospital and no direct connection with the patients, except in the matter of the purchase of supplies, the arrangement of buildings, and the employment of persons to aid in the care of patients. Under the immediate supervision of the hospital superintendent is included the housekeeper, whose duties are in a way similar to those of the general superintendent, except that they are often more directly connected with the general comfort of the patient and the cleanliness and sanitary conditions of the institution.

2. The Visiting and Consulting Staff.—The visiting and consulting staff of any hospital is responsible to the board of directors, and their duties are entirely concerned with the welfare of the patients. They have no direct connection with the management of the hospital, but are often called on to make, and often volunteer, suggestions for improvement in the executive and business management.

3. The Superintendent of Nurses and the Teachers in the Training School.—The superintendent of nurses has a double duty in that she is interested in and responsible for the nursing of the patients in the hospital. In most hospitals she is the principal of the training school for nurses, and supervises as well as takes an active teaching position in the school. The faculty of the training school are most often appointed by her and carry on their work under her supervision.

4. The Graduate Nurses Employed by the Hospital.—Graduate nurses are employed in most hospitals in the care of private patients. They are directly responsible for the care of their individual cases. Their conduct and their work is under the supervision of the superintendent of the training school.

5. The Nurses in Training.—The pupils in training may be regarded as (a) students in the school and (b) temporary members of the staff, who are employed to assist insofar as they are able in the care of patients while continuing their studies.

6. The Resident Staff, Commonly Known as House Officers or Interns.—These latter are graduate physicians, connected temporarily with a hospital much in the same way as nurses in training, and located in the hospital for the same twofold purpose—to acquire knowledge and to assist in the care of patients.

I wish to discuss the relationship of the house staff to the various departments of the hospital just mentioned. The members of all of these departments, except the house officers, are more or less permanently connected with the institution; consequently their duties are in a measure fixed, and less likely to change than those of the house officers, whose terms of office are temporary, rarely lasting more than one and one-half years. Since this is true, the duties of the temporary staff must of necessity be arranged to fit into the routine of the permanent divisions of the hospital, and must be carried on in such manner as not to disturb the permanent organization or the routine of the institution. Most of the mistakes of house officers and most of the friction between house officers and members of the hospital force are due to the fact that interns do not appreciate that their term of office is temporary, and that their presence in the hospital and their duties must be arranged to fit into the permanent organization without conflicting with it.

1. The Superintendent.—Since the duties of the superintendent are executive and entirely of a business nature, while those of the house staff are medical and directly connected with the care of patients, there should be no cause for friction between these two departments. The usual occasion for misunderstanding is delay in procuring the necessary medicines and hospital supplies. The delay can be avoided in most instances if supplies are ordered in writing by the house staff directly through the storekeeper. Blanks for this purpose should be kept in the wards, so that they may be obtained at any time. These orders should go directly to the superintendent, who must approve them, or, in case they are excessive or extravagant, prevent the storekeeper from giving out the supplies. In this way extravagance can be avoided, and the house officers can often be taught that they are ordering supplies or medicines which are extremely expensive when something just as good and much more economical can be used. This method tends to make the house staff anticipate their patients' needs, and teaches them economy and efficiency. In cases of misunderstanding, all the facts are in writing and can be discussed by the house staff and the superintendent.

2. Visiting and Consulting Staff.—One of the functions of every physician is that of instructor. If he fails to remain an instructor throughout his life, he fails in a large measure to perform all his duties. This instruction must be continually carried on for the benefit of his patients. If he is connected with a hospital, it is also for the benefit of the interns and nurses who are connected with the institution. The failure of the permanent and consulting staff of any hospital to realize this important duty is often the cause of much friction and misunderstanding during their term of service. They should realize that the house officer is just out of school, that the nurse is at this time obtaining her instruction, that the principal attitude of physician to patient and nurse to patient is best learned by observation, and that consequently at every visit to the hospital they should be exceedingly careful to remember that they are teachers as well as physicians. The duties of the intern are to carry out the orders of the permanent staff, and, in order to do this, he must know first exactly what the permanent staff are endeavoring to do and the exact line of treatment they wish carried out to accomplish this particular end. He should

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

also know the previous relationship between the individual patient and his physician; whether the patient is acquainted with his own ailment, whether he has been told how to cooperate in order to obtain the best results, and whether it is best for the patient to know all of the details connected with his illness. It is not fair to the house officer or to his patient to expect a young doctor just out of school to know intuitively all of the various details connected with the case. Difficulties arise from two distinct causes: First, the visiting staff do not give in detail the exact line of treatment they wish carried out. The reason for this is often that the time spent by the attending physician at the hospital is too short, and he thinks that the intern knows what should be done. This is a great mistake and leads to many errors in treatment. It tends to make the routine care of patients less careful and exact, and is often the cause of friction between the staff, interns, and patients. The more exact the attending physicians are, to the minutest detail, in outlining the care of each patient or each class of patients in the hospital, the more the house officer will learn from them, the better the patients will be cared for, and the less friction will there be. The second cause of friction and misunderstanding is that many members of the attending staff do not systematize any particular line of treatment for their patients, and in their own minds do not outline exactly what they are attempting or just how they expect to accomplish it. As a result, they are likely to change the method of caring for patients at every visit to the hospital. This brings confusion, makes for extravagance, and ends in poor treatment of the patient. The house officer working under such a staff is continually confused by the multiplicity of orders, and is not able in his immature medical mind to conceive the line of treatment or the ends attempted. It would add much to the harmony between the permanent and temporary staffs in any hospital if the permanent staff would write out an outline as a basis for the treatment of routine cases. One of the greatest causes of friction as well as of distress to the patient is the attempt on the part of the intern to consider the patient as belonging to him and to assume the individual responsibility for the case. In every instance the intern should remember that the visiting staff are responsible for each patient, and in case of doubt he should always inquire of the visiting staff and place every responsibility on them, where it rightfully belongs. If this is not done, it always means that the responsibility is assumed and divided between two heads; the intern does things for the patient that his chief dislikes; he may do things that his chief believes are not best for the patient. He may give orders that are distinctly harmful. This eventually means dislike on the part of the visiting staff for the house officer. It is likely to mean that the patient will form a dislike for one of the two. What I want to emphasize is that the intern should in every way possible endeavor to find out the exact line of treatment his superior is attempting to carry out and the definite end toward which he is aiming. If it is impossible for him to obtain this information from the visiting staff, he cannot be blamed for failing to contribute his share toward it.

During the convalescence of most hospital patients there comes a period when time hangs heavily on their hands. They welcome visits from nurses and the house staff at this period. The conversation naturally turns to medical affairs. In such an instance it is often easy for the intern to volunteer much information to the patient concerning his illness and advise him concerning his convalescence. This is a time when the patient is looking for information that may have been kept from him by his own physician, and he will often lay particular emphasis on any remarks made to him by a house officer. Many hours of worry and frequently sleepless nights have been caused by ill-advised remarks of an intern. Most physicians must learn in the school of experience that conversation with many patients must be extremely guarded, and that their remarks are very likely to be misunderstood or misinterpreted. Interns should remember that they should attempt to explain only minor details, and leave the explanation of the patient's case to his own physician. In this way much misunderstanding between patient and physician and between patient and the various members of the hospital family can be avoided. Silence is often golden, and the gold glows with an added brilliancy when it is encountered in an intern.

3. The Relationship of the Intern to the Superintendent of Nurses and Teachers in the Training School.—If there can be an understanding between the superintendent of nurses and the house staff that both of them are instructors in the same school, and that all of their work should be carried on so that the nurses under them could learn by observation of their methods at all times, much misunderstanding can be avoided. The interns should confine their particular part of the instruction to medical matters, and not attempt to instruct the nurses in the care of patients. On the other hand, the superintendent of nurses and the various instructors in the training school must confine their endeavors to the nursing of patients and not to their medical treatment. The insistence on written orders by the house officers for medicines, for special baths, and for special care will avoid much trouble.

4. The Relationship of the House Staff to the Nurses in Training.—The interns in any hospital have already had the opportunity of several years' instruction in medicine, while the nurses in training are only beginning or in the midst of their training; therefore the interns should endeavor to carry on their work so that it may be an example to the nurses for their attitude and relation to patients. The intern must regard himself as an instructor to the nurses. He should remember that the nurse often acquires her manner of dealing with patients from observing the attitude of the physician toward his patient. Rarely will a nurse be abrupt, irritable, or cross with a patient in the presence of a quiet, capable, even-tempered physician. On the other hand, nurses often acquire discourteous methods of handling patients from observing the same manner in the house staff. Since the nurses must learn to a considerable extent aseptic technic and reliable methods from watching the physicians, the intern should at all times, when dressing patients or carrying out any surgical procedure, not only emphasize, but in fact develop, a careful and almost elaborate method of procedure for the purpose of teaching the nurses the importance of surgical cleanliness. This applies also as well to the medical care of patients. If the writing of orders and the prescribing of medicines is done with extreme care, and even an elaborate ceremonial for the purpose of impressing the necessity of care on the nurses, they will quickly fall into the same routine. Many a good nurse has acquired slovenly methods from her association with a shiftless house staff. It has quite often seemed that when a new set of interns start in their service at some hospitals, they are regarded very much in the light of freshmen beginning their course in some universities. The permanent members of the staff and those connected for some time with the hospital have seemed to think it necessary to put these "green" interns through a set of methods similar to hazing students before they can be ac-

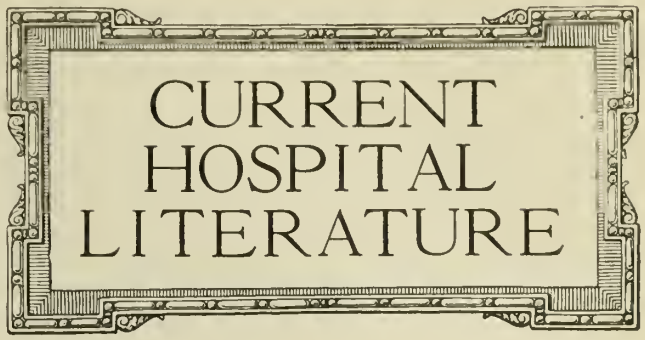
cepted as members of the hospital family. In some hospitals they are regarded as intruders instead of new workers in the ranks. Instead of being assisted in every way possible to become familiar with the hospital routine, their work has been made especially hard by the attitude of the older members connected with the institution. It should be remembered that at this time these house officers must learn the routine of the hospital, and that it can be learned much better and more quickly with the assistance of the older members of the family than in any other way. It must be expected that the new intern will make mistakes. He should be helped to avoid these instead of being led into them and then criticised. It should also be remembered that most young physicians are intelligent and desirous of completing their education; otherwise they would not spend the extra time and go to the expense necessary to serve this apprenticeship. Occasionally a keen observer among them can point out many ways in which hospital efficiency and the regular routine can be improved. The intern himself at this period must remember that he is in the hospital for only a short period; that he should not begin to criticise or attempt to make suggestions for improving the routine until he has been associated long enough to know the reason for most of the methods. He should also remember that he can learn a great deal from observing the work of the permanent hospital family, who have become efficient in their particular lines, and that this observation and the lessons he draws from it are one of the most valuable parts of his education. What I have attempted to show throughout this short discussion of the relationship of the house officer to the various departments of the hospital is that there is no place for criticism, competition, or strife, and that the best interest of the hospital and the intern can be secured only through mutual cooperation.

He Figured It Up

On one occasion a census clerk, in scanning one of the forms to see if it had been properly filled out, noticed the figures 120 and 112 under the heading, "Age of father if living" and "age of mother if living." "But your parents were never so old, were they?" asked the astonished clerk. "No," was the reply, "but they would have been if living." —The Medical Pickwick.

In a report of the Louisville, (Ky.) Board of Public Safety to Mayor John H. Buschemeyer it is recommended that steps be taken by the city in the near future toward the establishment of a home for incurables. The same report refers in complimentary terms to the efficient service being rendered by the Louisville City Hospital under the direction of Dr. J. W. Fowler. A marked increase in the number of persons applying for treatment at the hospital in both the resident and the out-patient departments is noted.

At a recent meeting of the Congress of Women's Clubs of Western Pennsylvania, held in Pittsburg, a resolution was adopted asking all of the hospitals of the city to admit women as both resident and staff physicians. Dr. Amelia Dranga, addressing the congress in support of the resolution, said: "I believe the attitude of men toward the admission of women physicians to the hospitals is not so much a matter of antagonism as of carelessness or unwillingness to take the initiative. The University of Pittsburg has established two scholarships for the medical training of women, but the Pittsburg hospitals bar women interns, and no man or woman can pass the state examination in Pennsylvania today without having a year's experience as an intern in a hospital. Not a day passes that does not show there is need of the woman physician. It is not a sex fight. There is plenty of work for all."



ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Elverum Community Hospital. Dr. T. Petersen. Tijdsskrift f. d. norske Laegefor., Kristiania, 1916, XXXVI, No. 17.

This small town hospital was built in 1906 at an expense of only 17,000 crowns ($4,590). It is a wooden structure of two stories. It consists of a central building and two wings, which extend on each side obliquely forward, so that the whole front has a concave appearance. The central structure contains the dining room, kitchen, baths, director's rooms, etc. The patients' wards are in the side wings. The first floor receives only tuberculous persons, and the second floor is intended for other patients. On the first floor there is a large veranda, intended for open-air treatment of the tuberculous patients, which extends along the whole front of the building. The first floor has room for 12 tuberculous patients and the second floor for 12 patients with other diseases.

The Yerkes-Bridges Point Scale as Applied to Candidates for Employment at the Psychopathic Hospital. C. S. Rossy. Boston Med. and Surg. Jour., 1916, CLXXV, No. 23.

Sixty candidates who applied to the Psychopathic Hospital for employment from February to June, 1915, chiefly as attendants, were subjected to psychological examination. Only 28 percent of the candidates had attended high school; the ages varied from 18 to 55, the average age being 25. Of these sixty candidates, 63 percent were graded as of normal mentality—that is, above the 15-year-old standard—17 percent were found slightly subnormal, and 20 percent were graded as intellectually inferior. In the third group many individuals gave histories of alcoholism, immorality, or delinquency. Rossy believes that, in view of the high percentage of defective and otherwise mentally incompetent persons who seek employment as attendants in state hospitals, systematic psychologic examination of the general intelligence of such candidates would be desirable.

The Berlin Institution for Crippled Children. D. C. McMurtrie. Am. Jour. Care Cripples, New York, 1916, III, No. 1.

This institution is one of the most complete of its kind in the world. It was established in 1906, and stands under the direction of the eminent orthopedist, Dr. Biesalski. The institution is located on an extensive plot in the Grunewald, in the suburbs of Berlin, and can accommodate from 250 to 300 children. There were originally three divisions of work—the hospital section, the educational section, and the industrial section. In 1909 an out-patient department was added, providing orthopedic attention for

many crippled children at their homes. For the convenience of many patients a clinic and dispensary has also been established in the central part of the city. The main building of the hospital has the form of a V. Thresholds are absent throughout the building, and, besides numerous stairways, an inclined plane crosses the building from top to bottom for the convenience of the crippled children. The school division, consisting of five class rooms, and the various workshops are on the ground floor. A fine gymnasium extends in height through two floors. In the south wing of the second floor is the surgical division, containing an examination room, two operating theaters, a roentgen room, etc. At some distance from the main building is a pavilion for infectious diseases. A most important feature of this hospital consists in the extensive grounds, covered with a beautiful forest of fine, tall pine trees. Here the children play and work in favorable weather, and the classes are taught in the woods whenever possible.

At the age of 14 the boys leave the elementary school section and enter the trade school. After a three-years' apprenticeship they leave the institution as properly qualified workmen. They learn carpentry, bootmaking, tailoring, blacksmithing, etc. The girls learn spinning, lacemaking, tailoring, sewing, etc.

The Need of a Special Clinic for Cases of Heart Disease. (A Female Medical Clinic, Report from Mount Sinai Hospital Dispensary). Morris H. Kahn, M. D. New York Med. Jour., 1916, CIV, No. 21.

In spite of the fact that much time and attention was devoted to the cases of chronic heart disease, dispensary care in a general clinic was found inadequate. For the earlier and milder cases of heart disease, two methods of handling are recommended—(1) the educational and (2) the supervisory.

1. Kahn believes that the usual policy in most general hospitals of admitting only decompensated or urgent heart cases is wrong, both medically and economically. He believes that if, when heart disease is first discovered, the patient were sent to a hospital for two to four weeks, and there observed and taught how to adapt his life to his capabilities, decompensation might be avoided in many cases and postponed in others. Thus a short hospital sojourn of a few weeks at the outset will save later occupancy of a hospital bed for many months.

2. The associated or alternative method is the supervision of patients with heart disease at their homes by a physician and nurse associated with a special clinic equipped for the study of cardiac cases. Since patients with heart disease are fated to lose in the struggle for existence when pitted against healthy persons, Kahn suggests that it may be desirable to segregate industrially these handicapped persons, at the same time keeping them under medical advice, instruction, and supervision in a special clinic and at home by the nurse of the clinic.

Researches on the Presence of Virulent Tubercle Bacilli in the Air and Dust of the Wards of Reknes Sanatorium. (Undersoekelser angaaende tilstedevaerelse av virulente tuberkelbaciller i luft og stoev paa Reknes sanatoriums vaerelser). Dr. E. Kaurin. Norsk Magazin f. Laegevidenskaben, Kristiania, 1916, LXXVII, No. 1.

The author used Bing's and Schoenauer's methods to make cultures from the air and dust of the rooms of tuberculous patients. He inoculated fourteen guinea-pigs with the cultures supposed to contain tubercle bacilli. All the animals remained in perfect health for four months, when they were killed and examined. None of them showed any signs of tuberculosis. These experiments led the author to the conclusion that in a tuberculosis sanatorium with large rooms and plenty of light and fresh air, and in which all the principles of hygiene are scrupulously observed, there is no danger of infection from tuberculosis. This agrees with the past experience at the Reknes Sanatorium, as during the seventeen years of its existence not a single case of tuberculosis developed among the nurses and the attending personnel.

State Aid for Sanatoria for the Tuberculous. H. M. Bracken, M. D. Journal-Lancet, 1916, XXXVI, No. 23.

The tuberculous patient, Bracken believes, should be hospitalized, not because he is sick, but because he is dangerous to the community; and on this basis the state may properly be asked to aid in the hospital care of the tuberculous. The hospital for the early cases may be chosen without reference to nearness to the patient's home. The state may well be expected to provide for the construction, equipment, and maintenance of institutions for such cases. Patients with advanced tuberculosis should be cared for in institutions not too far distant from their homes. Bracken believes that the best plan is to place the responsibility of managing a local institution on a county or a group of counties, state aid being afforded on condition that the local institution conform to a required standard in construction, equipment, and maintenance.

The American Hospitals in Germany and Austria. Dr. John R. McDill. Sonntagsbl. d. N. Y. Staats-Ztg., 1916, Nov. 5.

There are six large hospitals in Germany and Austria which are managed exclusively by American physicians. Many thousands of wounded soldiers have been treated at these hospitals. These establishments are maintained by collections made in the United States. The author is director of the American Reserve Hospital No. 5 at Graudenz, a strong fortress in Eastern Prussia. He, as well as his assistants, formerly studied in Germany, and is thoroughly familiar with the German language. At first the American physicians were looked on with suspicion and distrust by the population, but the splendid work and the unselfish devotion of these men soon gained the admiration, the respect, and the hearty cooperation of all the people. The hospital is established in a large college building, which is as admirably adapted for this purpose as if it had originally been planned for a hospital. It contains 500 beds. Ten well-trained nurses are assisted by fifteen men of the German hospital corps. The author expresses the view that Germany is very much in need of assistance in the care of her wounded, and hopes that the American hospitals may be maintained to the end of the war.

The Modern Medical School—Its Relations to the Hospital and to the Medical Profession. George Blumer, M. D. Albany Med. Ann., 1916, XXXVIV, No. 11.

Blumer says that, while the advantages to the medical school from affiliation with the hospital are obvious, the advantages to the hospital have been less generally recognized because medical school authorities have often failed to educate hospital trustees adequately. Affiliation between the hospital and the medical school provides the men and often the means to conduct the various laboratory departments so necessary to the up-to-date hospital, more cheaply and efficiently than would otherwise be possible.

The objection that the use of ward cases for teaching is distasteful to the patient, Blumer believes to be grossly exaggerated.

"Another problem which the hospitals have to solve, apart from and yet related to the teaching problem, is the reorganization of their staffs. The old system, whereby each department had several heads of equal rank who served for definite portions of the year, is, on the face of it, incompatible with the highest efficiency. No sensible business man would put his affairs into the hands of six general managers who changed every two months. He would be fully aware that such a scheme would be incompatible with continuity of policy and equality of achievement and would result in failure. In hospital work under such a plan the failure is not apparent, but it is there just the same. It is essential to satisfactory hospital work that each department should be under the head of one director who should, with the assistance of his staff, map out the policy and supervise the work. This does not mean that the opportunity for the practitioners of the neighborhood to obtain hospital positions is done away with, it simply means that their work will be conducted along lines laid down by the head of the department to whom they will be responsible."

The French Red Cross Hospital Ship "Been Hoa" (De "Been Hoa" of the militaire Fransche Roode Cruis boot). Miss Koning. Noskomos, Amsterdam, 1916, XVI, No. 35.

Miss Koning, a Dutch nurse, who traveled from Toulon to Salonika on a French hospital ship, describes the boat as follows: The ship has six large wards. The largest can receive as many as 300 patients. There are six bathing rooms, four operating rooms, a drug room, an x-ray room, and other minor rooms. The ship is splendidly equipped. The beds are of iron. The rooms for sick and wounded officers have 1, 2, and 3 beds. The operating rooms are as completely equipped as those of a modern hospital. The ship has a bakery and a machine to make artificial ice. The patients are always supplied with fresh meat, as live oxen, cows, sheep, rabbits, and chickens are kept on board.

The Surgical Staff Conference. Frank E. Adair, M. D. New York Med. Jour., 1916, CIV, No. 21.

The weekly staff conferences of the second surgical division of the New York Hospital are attended by the entire attending and house staff. They include (1) a review and discussion of the work of the past week, (2) a report from the standing staff committees (out-patient department, clinical clerks, operating room technic and efficiency, supervision of charts and clinical records, anteoperative and post-operative treatments), and (3) a brief report on any subject assigned by the chief to a staff member, or a review of the literature having a bearing on some unusual case in the hospital. Review of the work of the past week includes the study of (1) infections, (2) deaths, (3) post-operative complications, pneumonias, hematomas, etc., and (4) unsatisfactory results in cases traced by the follow-up system. Every case of operative or post-operative infection is studied at the conference for the purpose of tracing it to its source. Cases of diagnostic error are studied to determine whether the error is due to (1) lack of consideration of the patient's history, (2) haste in the physical examination, (3) lack of laboratory data, or (4) other causes. Free discussion is the privilege of every member of the staff at the conferences. Among the advantages which Adair attributes to the system are the following: (1) the attending surgeon gains through the weekly conferences an accurate idea of the entire activity of his service, the strong and weak points of individual members of his staff, and the surgical judgment, diagnostic skill, and technic of each operator; (2) the mere fact that cases which have an unsatisfactory end-result are to be reviewed and critically discussed is sufficient to induce increased caution and thought in anteoperative diagnosis, operation, and post-operative treatment; (3) in any case of unusual interest much may be learned by systematically reviewing at the conference the history, physical examination, laboratory findings, x-ray findings, operative note, and subsequent course of the patient in the hospital.

Caring for Patients at Home and in Hospitals (Ziekenverpleging aan huis en ziekenhuisverpleging). Dr. J. C. Wortman. Ziekenhuis, Amsterdam, 1916, VII, No. 9.

To prevent crowding of hospitals and to avoid the necessity of building new hospitals, it has of late years become customary in many Dutch cities to attend certain patients at their homes. The nurses who visit these patients daily can, of course, do much good, but it is clear that they cannot fill the place of a hospital. It is true, many public physicians are too quick to send their patients to the hospital, and the patients, too, are always ready to go to the hospital, because they know that they will be well cared for and that the city will demand of them only a small compensation. Some cases of hospital abuse will always occur, but this abuse, the author says, should not be permitted to develop into a system of extravagance.

The indications and contraindications for hospital care must not be based on the desire to limit the number of hospital patients, but on purely medical desiderata. The social status of the patient must also play a rôle. The social factor has of late years become of less importance, however, than the medical considerations. The hospital has gradually become a true technical establishment where the sick are cured. For the same reasons that a surgical patient is operated upon at the hospital, all other patients, without regard to the disease, are received if hospital care is more favorable to the case than home treatment.

Hospital treatment is indicated especially in typhoid fever, diphtheria, scarlet fever, and diseases which, from their infectious nature, are a danger to the community. Of the chronic diseases, tuberculosis should be treated at special tuberculosis hospitals. Nervous diseases are best treated at special hospitals, where the chances of a cure are much greater than if the patient were treated at home. Hospital treatment is contraindicated in fresh cases of apoplexy, cases of gastric and pulmonary hemorrhage, and croupous pneumonia.

The Clinical Thermometer as a Carrier of Infection. L. Martocci-Pisculli, M. D. New York Med. Jour., 1916, CIV, No. 18.

Cultures made from clinical thermometers washed in running water after use by physicians gave startling results, which suggested the desirability of an investigation. This was carried out at Willard Parker Hospital under the direction of Professor William H. Park. Of eight thermometers used on diphtheria patients in the hospital, four were washed in water and cleaned with sterile gauze and four cleaned without being washed. All gave cultures of pathogenic microorganisms. Martocci-Pisculli believes that these experiments establish "the fact that the thermometer is a very dangerous carrier of microorganisms, and that the haphazard way of cleaning it and passing it from one patient to another without thorough disinfection is fraught with the greatest possible danger."

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An organization of the hospitals of Baltimore for closer cooperation and the promotion of high standards of efficiency was effected at a meeting held at the Mercy Hospital December 6. Dr. H. J. Moss, superintendent of the Hebrew Hospital, is said to have been largely responsible for the movement, which it is hoped may be made of statewide importance by enlisting the interest and active participation of all the hospitals of the state. The first step taken by the new association was the passage of a resolution asking the state compensation board to provide that each patient sent to a hospital under the charge of the board shall be paid for at the rate of $2 a day, instead of $1, as according to the present arrangement. Another move soon to be made will be in the direction of securing exemption from the city water tax. The officers of the association are Dr. H. J. Moss, president; Sister Carmelita, of Mercy Hospital, vice-president; and Mr. H. Warfield, secretary-treasurer.

An election will be held throughout Scurry county, Texas, December 30, on a proposition to issue $25,000 in bonds for the erection and equipment of a county hospital.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

A New Year's Greeting

"Ring out, wild bells, to the wild sky
The year is dying in the night—
. . . . . .
Ring out, wild bells, and let him die."

The furies let loose on the earth may well shriek with frenzied laughter if we, in our peaceful homes, warm with the glow of the fire and the Christmas candles, sing as we always have sung on Christmas eve the angel greeting, "Peace on earth, good will to men." But if this year our lips must be silent, the unquenchable hope in our heart whispers to "wait God's instant men call years," and while we wait we work; for again the spirit of hope whispers that the ever-increasing army of nurses is a strong wing of the great peace army that is *going* to conquer the world, and we, too, have our program of preparedness to look to. As we review this army, note the changes that are gradually taking place in the various training fields, and the appointments to important posts, we cannot fail to be encouraged by the very evident strengthening of our forces all along the lines. Our numerical power is undoubtedly increasing. Over 70,000 nurses have already obtained state recognition of professional preparedness through registration. In the past year over 3,500 candidates applied for admission to the accredited schools of nursing of one state alone. All over the United States there is a steady concerted effort to raise the educational standards of admission to these schools, and a very definite and encouraging result is being obtained. For the few schools that still assert that they cannot demand more than the completion of the grammar school, hundreds of schools find it possible to require one, two, and three high school years, and even the full high school course, for admission, while from one of our largest—the Massachusetts General Hospital Training School—comes the report that not only has every pupil completed the high school course or a full equivalent, but fifty-four have had additional work in normal schools or colleges and twenty-two are college graduates. Furthermore, four of the faculty of this school are also college graduates.

A not less important factor in what we believe to be a very definite advance in professional efficiency is the increasing effort of the boards of training schools to provide for their students better teaching and a more comprehensive practice field. Perhaps the most conspicuous evidences of progress, however, are the various appointments that have been made in the past few months, to a few of which we must call attention:

The selection of Miss Clara D. Noyes for director of the National Red Cross Bureau of Nursing Service has sent a wave of rejoicing over the land.

It would be difficult to find two women of nobler presence or nobler minds than Miss Delano and Miss Noyes, on whom has fallen the heavy and perplexing problem of national and international nursing relief through professional and volunteer workers. The national service that may eventually be rendered by the Red Cross, not less through its educational program than its program of relief, seems almost incalculable. We know of no members of the profession who would more soundly and efficiently develop these schemes than those into whose hands the task has been placed.

Miss Noyes' successor at Bellevue is Miss Amy Hilliard, who will follow, we are sure, her notable work in the state as inspector of training schools, with a not less notable achievement here; for she will not fail to grasp in its fullness the great opportunity of rendering through a municipal hospital the most efficient nursing care to the sick poor, while using for the benefit of the students, not only of its own school, but from small schools throughout the country, the richness of its clinical material, its fine equipment, and its conspicuously large teaching and supervising staff.

Not less gratifying is the appointment of Miss Elizabeth C. Burgess, a graduate of Teachers' College and recently superintendent of nurses of the Michael Reese Hospital, Chicago, as the inspector of nurse training schools in New York state. Miss Burgess assumes her work with an academic and professional equipment, a varied experience, and an intrepidity of spirit that make her appointment seem a very notable event to those who are deeply interested in advancing state standards of nursing education.

The appointment of Miss Sally Johnson, of the Peter Bent Brigham School of Nursing, Boston, to the superintendency of the Albany Training School, seems also, to those who know Miss Johnson's ability and who also know the excellent teaching field this school offers through the Albany Hospital, with its varied services and the Albany School of Medicine, too important to pass unrecorded. In order that Miss Johnson may advance the school to its highest proficiency, the board of trustees has greatly enlarged the force of teachers and supervisors in this school.

Last, and big with promise, comes an announcement from which we cannot forbear to quote at length:

"In June, 1916, the Board of Trustees of the University of Cincinnati, on the recommendation of the mayor of the city, the director of the department of Public Safety, the dean and faculty of the Medical College, and the president of the university, made the School of Nursing and Health a department in the College of Medicine. This step was taken in recognition of the pressing need for more adequate training for nurses, and of the obligation of the city departments concerned to make through cooperation the highest use of the facilities of the hospital and of the university in the interest of the health and education of the community which they serve.

"By special arrangement of the two departments of the city government operating the university and the Cincinnati General Hospital, the hospital provides a laboratory for the practice of nursing and cooperative assistance to the student nurse, while the university, in its College of Medicine and other colleges, provides scientific instruction essential to the pursuance of the study and practice of nursing, thus making possible the preparation of women for the nursing profession as private, institutional, and public health nurses.

"In addition to the regular three-year course of nursing leading to the diploma of graduate nurse, the university provides a five-year combined collegiate and professional course leading to a degree of bachelor of science as well as to the diploma of graduate nurse."

The officials of a great city, concerned to raise its standards of health, have opened to women of education entering the nursing profession its institution of learning and its institutions for the sick, and have provided the twofold credit we have been awaiting—credit for advanced academic preparation to those entering the nursing profession and academic credit for the work in the practice field. And note, fellow-workers, known as private nurses—you whose service represents the concentrated essence of nursing care, you who so often add to the heavy demands of the day the long vigil of the night, and the importance of whose field has of late been so little emphasized—note that this is one, and the first, of the three fields for which it is stated this splendidly comprehensive preparation in nursing is being provided.

"Ring out old shapes of foul disease,
Ring in a thousand years of peace;
Ring out the old, ring in the new,
Ring, happy bells, across the snow."

ANNIE W. GOODRICH.

Clinical Laboratory Technic for Nurses

BY ANNA L. GIBSON, R. N.,
Instructor in Clinical Laboratory Technic and Assistant Matron Superintendent.

PAPER III.

The demand for specially trained nurses to occupy positions as office nurses and laboratory assistants in small hospitals is steadily on the increase, and to meet these new demands the instruction received in the training schools is not in itself sufficient. The constant broadening of the nurse's field of activity has brought new responsibilities to the training schools which as yet they are unable adequately to meet; but the time is fast approaching when laboratory technic will be universally and systematically taught in our training schools.

At present post-graduate teaching of nurses seems to be the solution of this problem, and it has now become a potent factor in elevating the efficiency of the nursing profession. It is most gratifying to observe how the trained nurse is becoming more and more recognized by the medical profession, and they acknowledge that medical and surgical technic would hardly be what it is today had it not been for the development of the trained nurse to supplement their work and assist them in carrying out the complicated and technical procedures of modern practice.

It is no longer considered that any woman can be a nurse and that little knowledge of the most superficial kind is sufficient for her. The modern training school prepares a woman for many branches of civic usefulness. The actual care of the sick is but one part. Many nurses think that the mechanical side is all there is to nursing. They are content with their education after graduation, and make no effort to raise themselves from merely being members of a skilled occupation to the standpoint of a learned profession. It is true, women did good nursing in the past without much knowledge of bacteriology, chemistry, hematology, or pathology, but they might have accomplished greater results had they had more instruction in these sciences.

The profession of nursing, like scientific medicine, is a child of progress. The development of scientific medicine is comparatively recent, and the past few years have added much to the knowledge of bacteria and protozoa; and because of the close relationship of the medical and nursing professions, it is necessary for us to continue to be students, that we may keep abreast of the new and practical advancements. Training in laboratory methods will give nurses a better understanding of recent progress, and make them more intelligent observers. It is most important for a nurse to cultivate the faculty of observation, and she must be conversant with the symptoms and every detail of the work pertaining to the patient's welfare, for such observations will greatly assist the doctor in making a correct diagnosis.

Laboratory methods in the past twenty years have done more to emancipate medicine from routine and thraldom of authority than all the works of all the physicians from the days of Hippocrates to Jenner, and but a beginning has been made as yet. The rapid development of bacteriology and hematology demonstrated the need of using the methods of these sciences in clinical laboratories. Doctors realize that in the diagnosis of a case the sum total of all the examinations clinically, and those which are ascertained by laboratory tests, must be considered in justice to the patient and the reputation of the hospital.

In this age of specialization doctors are working with a precision more careful than ever before, and nurses with no knowledge of laboratory technic can easily mar all they are striving to accomplish. Physicians are often hampered in their work in hospitals which do not encourage and afford facilities for laboratory and research work. This is especially true of the smaller hospitals; but they are beginning to realize the need of proper equipment for such work, as the great benefits derived from laboratory findings and the additional data rendered available in the study of cases are brought to their notice. The clinical laboratory work of the large hospitals is done by medical students, and considered as part of their education. The small hospitals, isolated from the schools of medicine, do not have the medical students available, and so they are asking the nursing profession for assistance.

While visiting the various hospitals and clinics in Europe, I found the nurses making routine examination of feces, stomach contents, sputum, and urine. The doctors consider this work somewhat of a drudgery, and, by having a nurse to do it, valuable time is saved for more important work. They also aver that a nurse gives more careful attention to detail and is much neater in her technic than the medical student. This teaching is a new departure in the training of nurses, and no attempt has hitherto been made to give systematic instruction.

The laboratories of the Huntington Hospital are well equipped and offer exceptional opportunities for such teaching, and this training in laboratory technic is offered graduate nurses who can present evidence of the satisfactory completion of a course in a nurses' training school of approved standards, connected with a hospital in which a complete general training of not less than two years has been given, and provided they are prepared to give adequate time and study to the work. Nurses are required to conform to the rules of the hospital, and are expected to perform any duty assigned to them by the matron, including day and night work. This course is designed to give the nurse such training as would enable her to be of value in a physician's office in making routine examinations along clinical lines, and in exceptional cases such instruction should fit a nurse for practical teaching in a training school or work in the technical supervision of a laboratory in a small hospital. The instruction includes qualitative and quantitative analysis of urine, functional tests, examination of blood, feces, sputum, qualitative and quantitative analysis of stomach contents, study of bacteria commonly encountered in pathologic processes, body

fluids, and preparation of tissue for histological study. Methods of making normal and standard solutions, stains, reagents, and culture media are also taught. A nurse must become familiar with and accurately perform each simple test before she is taught more complicated methods.

I have labored under considerable difficulty in teaching this technic from books written for medical students. The work of the nurse is that of a technician, not a diagnostician, and the laboratory books which contain the innumerable and minute detail indispensable to the medical student are too advanced and beyond her comprehension. The course covers a period of six months, with six hours of instruction and six hours of laboratory work a week. Oral and written examinations are given at stated intervals, and, if the final examinations are satisfactorily passed, a personal certificate is given, signed by the director of the hospital. This schedule is being revised, and we hope to have lectures given by members of the staff. The work requires of the nurse a high degree of technical skill and intelligence, and she is a valuable asset to the hospital at the same time she is studying to increase her own efficiency.

The Present and Future Aspects of Reciprocity[1]

BY C. A. BAHN, M. D.

The future of nursing reciprocity hinges on the standardization and inspection of training schools. There is but one way to eliminate inferior training schools, and that is by pointing out weakness by comparison, which, with publicity, means standardization.

Training schools are institutions of learning just as are universities. The public and the profession demand that the prospective nurse have systematic and proper instruction according to modern approved methods. You are gathered here to specifically summarize what modern and approved methods really are, and what constitutes the essentials of a training school. No one thing or even five can determine this. Beds alone, in a hospital, do not make a nurse. The actual time of training, two or three years, may mean much or little. All of the vital factors must be considered even to cleanliness and order. Dirt and discipline do not go together in a hospital.

A method of classification for training schools on an educational basis must be arranged which will include all the essentials of nursing training, which will leave but little to the personal element of inspection, and which will be applicable to every training school in this country. Such a form of classification or grading must be based on the fact that a hospital and training school of a given capacity, equipment, and organization would have certain specific requirements, and, not having all of these, passes to a lower class in which all requirements are met.

A vital feature of reciprocity is the preliminary requirement. How many nurse boards are positive that their preliminary requirements are being fulfilled? I doubt that there are ten. If you have preliminary requirements, enforce them. If a board is directly responsible for student nurses' preliminary education, why not assume that responsibility during the student's probation, when deficiencies may be rectified?

The inspection and regulation of training schools are the real work of a nurses' examining board. Nurses are made in a training school, and not by a state board examination. The time will come when training school standardization will make state board examination unnecessary. This inspection should be made by the secretary or some duly appointed officer, and to verify a detailed specific statement of the institution, as well as to suggest improvements as the result of comparison with other training schools. This can be accomplished only by uniformity and systematic comparison, which also eliminates the personal equation. Without inspection, training school regulation is but little advanced over the correspondence course of nursing. If standardization and inspection of training schools is desirable, is it not ten times more so on a uniform basis applicable to every training school in this country?

The reciprocity problems which we must solve before nursing reciprocity can really be called reciprocity are these:

1. Will nurses' boards recognize or refuse all nurses from another state, or will they recognize only the training school and qualifications of the individual applicant? Is reciprocity to be a sisterly pact to overlook all sins of omission and commission of training schools, or is it to be based on the fundamental question of individual qualifications? The purpose of reciprocity is to permit registered nurses of a certain excellence to register in another state without a second examination. How is this excellence arrived at? By a state board examination? I do not think so, for this, at best, eliminates the lowest 5 to 10 percent; besides, no one board examination is more difficult than another. Those who pass are of varying degrees of excellence, depending on their training schools and supplementary training. Should 80 percent of this number be barred from reciprocity because the other 20 percent do not comply with some minor requirement of another board? I think not. The purpose of reciprocity must not be defeated by red tape. State boards must not be arbitrary, and must not let petty problems interfere with the moral and legal rights of the registered nurses, whose agents we are.

2. What shall we do with the nurse graduated and registered some years ago, who applies in a second state for reciprocity? She doubtless does not meet present requirements, and should not be expected to. It is only fair that she be accepted or rejected on requirements of the time of registration in the first state. Remember, requirements for 1916 apply to nurses who enter training in 1916, and not to nurses who graduate in 1916. Nurses graduating in 1916 must conform to 1913 or 1914 requirements, depending on a two- or three-year requirement at that time. A nurse graduated in Colorado in 1910 and passed an examination before the Colorado board in 1910, and applies to this board in 1916. Will we consider her on our 1910 requirements, or, if prior to the organization of this board, to our earliest requirements, or will we consider her application on the basis or our 1913 or 1914 requirements? I think we should consider the application on our 1910 requirements. If the nurse complied with the Colorado law and could have registered in this state in, say, 1912 without examination, we should accept her application on the same terms today.

3. Now consider the same case, but assume that the nurse registered in Colorado by waiver and not by examination. Shall this board require an examination, or shall we consider the application on 1910, 1914, or 1916 requirements?

4. Should state boards recognize the law of another state literally, or shall the question of enforcement be considered? Many states have two-year laws, but three-year requirements, etc., and a moderate law enforced accomplishes more than a perfect law not enforced.

[1]Read at the convention of the American Nursing Association, New Orleans, May 1, 1916. Printed by courtesy of the American Journal of Nursing.

5. What relation does the compulsory law have to reciprocity? And, in this connection, are the so-called compulsory laws compulsory, and have they been tested in court? They assume no jurisdiction over the practical nurse, and simply prevent the use of the terms trained, licensed, graduated, and registered by the unauthorized as opposed to the noncompulsory laws, which include only the terms registered or licensed. Can a law prevent a person assuming to be a trained or graduated nurse if that person has had some training or is a graduate?

These are problems which you must solve before your agents, the state boards, can apply the principles involved. I believe the solution of the reciprocity problem consists in each state tabulating its detailed requirements for each year or two years for the past five years. Consider reciprocity of past graduates on the basis of requirements at the time of registration to the first state. For nurses graduating after January, 1917, reciprocity should be considered on the basis of the training school alone. The grading of training schools in the manner referred to in the eight months intervening will give the various boards ample opportunity to classify their various schools. The very fact that a number of boards consider applicants on the basis of a uniform training school requirement will force, by sheer publicity, practically all training schools to recognize this form of classification.

There is a crying demand for a small, strong national educational committee. Give them power to act and lots of postage stamps. With energy, justice, business management, and a reasonable expense, this committee can do more for organized nursing in three years than has been accomplished in the past twenty-three years. The secretary should give all her time to the position. The duties of this committee would be in part:

1. To formulate ideal nursing laws. If this parent organization has not framed an ideal law, how can you expect the suborganization to do so? Legislation demands education.

2. To formulate proper preliminary requirements, training school requirements, and a method of training school classification preparatory to the grading of every training school in this country on a uniform basis and eventually from a central source.

3. To formulate suitable literature for wide circulation in states having no nursing laws, as well as to organize nursing bodies in such states to institute suitable legislation.

4. To assist, especially the newly organized state boards, in systematization of board work.

5. To formulate suitable application forms, uniform record systems, and other stationery used by state boards.

State boards need more interest, greater cooperation, and better management. Can you expect forty-four separate organizations to act in unison without a directing hand? The knowledge, justice, activity, and power of such a committee must, if properly managed, soon dominate the individual state board, the training school, and legislation. Has not a similar body of the American Medical Association done this, and more? If you members of the American Nurses' Association want better training schools, better state boards, better legislation, and real reciprocity, you must decide specifically on the present problems, organize a strong committee, with power to act, and have them assist the various state boards and direct what you wish accomplished. You have it in your power to regulate training schools, legislation, and reciprocity. If you do not make the best use of your power, you and you alone are to blame. The grading of training schools under your direct supervision will do more to strengthen your organization, unify state boards and legislation, and clarify the reciprocity problem than all else together.

To conclude, if the ideas here expressed meet your approval, criticise, that they may be improved; if they do not meet your approval, criticise anyway. Criticism means interest—interest means action. Action is needed.

Bacteriology in the Curriculum of the Training School[1]

JANE VAN DE VREDE, R. N., Assistant Bacteriologist, Board of Health, Savannah, Ga.

The purpose of this paper is to deal with the teaching of bacteriology to the student nurse, with special reference to the small hospital and training school. From a somewhat limited experience and a wider observation, the writer ventures to state that the subject has not been well taught in the smaller schools up to the present time for the following reasons:

1. The system of instruction has been faulty.
2. Teachers have not been provided.
3. The text-books have been too technical and the material not well arranged for the development of the subject.
4. Sufficient time has not been allotted to it in the curriculum, nor have adequate facilities been furnished for carrying out instruction.

The general plan for the teaching of bacteriology to nurse students has been a course of lectures given by a physician, usually a member of the hospital staff. Though valuable time and energy have been generously given by the instructor, poor evidences of success are usually obtained. Why? Because we are expecting the impossible.

No subject can be adequately taught to academic students by a system of lectures alone, and especially not to nurse students coming from various institutions of elementary instruction, with no opportunity for grading such in the training school. Lectures should be given to nurses as comprehensive, complemental instruction after careful classwork has been accomplished, the fragmentary, more or less disjointed lesson plan being supplemented by logical presentation of the subject in its entirety. The classwork should embody some general scheme correlative with the rest of the nurses' training, attaching new knowledge to old wherever possible.

The logical teacher for this subject in the small training school is the surgical nurse. The daily practice of sterilization, disinfection, and contact with infectious materials, and the administration of immunizing agents, afford abundant opportunity for the repetition of principles to specific procedures. Unfortunately, most nurses specializing in surgical and executive hospital work in the smaller institutions have received their training and instruction in bacteriology under the present plan, and practice the underlying principles involved in the discharge of their duties by the simple "rule of three," as it were. Bacteriology is to such rules what the higher mathematics are to arithmetic—the processes and rules are explained and justified. It makes intelligent individuals rather than automatons of nurses.

In order, then, that the teaching of bacteriology shall be made immediately more satisfactory in the small training school, what can be done? The need could be met by a teachers' manual of bacteriology. Such a manual should be written by a nurse specially prepared in bacteriology—one who is a born or trained teacher. Written for use in conjunction with a text-book for nurses on

[1]Read at the twenty-first annual convention of the National League of Nursing Education.

the subject, it would go far toward solving a problem which many have realized, but have been unable to deal with successfully. While there are many admirable text-books on the subject, most of them for one reason or another are not ideal for the small training school. A nurse's knowledge of bacteriology needs usually to be developed from the foundation. Where a high school diploma or its equivalent is required preliminary to hospital entrance, familiarity with the subject has been acquired through courses in elementary bacteriology, zoology, and biology, but, where these advantages cannot be commanded, the training school must attempt to make up the deficiency. The whole subject should be considered in its relation to health and disease, and approached along the more familiar processes of vegetation, fermentation, and putrefaction. Instruction should begin in the preparatory period and continue at intervals through the entire time of training.

A suggested course is here outlined, covering three periods—thirty hours of classwork and ten lectures: (1) during the first year, sixteen lessons of one hour each, twice weekly, with two introductory lectures; (2) during the second year, eight lessons of one hour each, once weekly, with four lectures; (3) during the third year, six lessons of one hour each, once weekly, with four lectures. Note-books should be required throughout the course, and corrections reviewed in class. Each class may be divided into quiz review of past lessons, fifteen minutes; subject matter of the day's lesson with demonstrations, thirty to thirty-five minutes; brief explanation of next lesson, giving references, ten to fifteen minutes.

The first period should cover:

1. Two introductory lectures, one on the history and development of bacteriology and one on bacteria, their sources and uses in the world. A brief outline of the development and history of bacteriology should be given for the note-books; the two theories of the dark ages of medicine, heterogenesis—that life and disease originated out of nothing, spontaneously, *de novo;* and biogenesis—that all life must proceed from other life, *omne vivum ex vivo*, resulting in fruitless controversy until certain discoveries lifted the veil. In teaching the facts of history, certain facts and names should be made to stand out in brief, bolt outline, and they will be remembered; VanLeenwenhoek, as the father of microscopy; Henle, as the father of the germ theory of disease; Lister, as the father of antiseptic surgery; Pasteur, as the father of modern bacteriology; Koch, as the originator of the laws by which bacteria are determined as the specific causes of diseases. Koch proved for all time the fallacy of heterogenesis and the truth of biogenesis. The work of Pasteur and Koch gave opportunity for the discovery of specific bacteria, and between the years 1879 and 1890 most of the known pathogens were discovered. With the discovery of antitoxin for the control and cure of diphtheria a new era dawned in medicine, and an army of investigators have been evolving the science of immunology and serum-therapy since that time.

2. An outline for the scheme of the study of bacteria in general should be given to be used throughout the entire course.

Bacteria are studied according to

1. Morphology
   - Size.
   - Shape.
   - Arrangement.
   - Appearance.
2. Motility
3. Spore formation
4. Structure
   - Flagella.
   - Capsule.
5. Staining
   - Simple stains.
   - Gram stains.
   - Special stains.
6. Growth on media
   - Bouillon.
   - Agar.
   - Gelatin.
   - Milk.
   - Blood sera.
   - Special media.
7. Conditions for growth
   - Essential.
   - Favorable.
   - Inimical.
8. Chemical products produced
   - Mode of entrance.
   - Morbid processes produced.
9. Pathogenesis for animals and man
   - Modes of exit.
   - Modes of destruction.
   - Immunity.

Such an outline used as a skeleton and filled in for all bacteria studied during the different periods, recorded in note-books, will give data that can always be elaborated for special study and a ready help for reference.

3. The simple technic of laboratory procedures in staining and culturing bacteria, demonstrating their different shapes and arrangements, should be taught. Materials yielding bacteria for smears and cultures should be secured from familiar sources—the dust of the room, exposed instruments, dressings, etc. The keynote of all classwork should be, "See it and do it yourself." Simple stains may be secured through drug stores or made up in the drug room of the hospital. Such media as milk and broth may be made by the nurses. Solid culture media may be secured at small expense from one of the many commercial laboratories.

4. Disinfection and sterilization by chemical and physical means. Technic should be given, and then the reasons demonstrated by cultures, showing perfect and imperfect technic. Stress should be laid on the importance of intelligent procedure. The culture is the detective that reveals the criminal nurse.

5. The sterilization of hands by different methods should be demonstrated by cultures. The proper handling of infectious materials, the collection of specimens for examination, repetition of demonstrations of infectious materials cultured, and methods of disinfection of same cultured, will educate and quicken conscientious service. The important duties of disinfection and sterilization resulting in the destruction of the unseen foes of human health and happiness are worthy of the best efforts of study and practice. To rob motherhood of the terrors of the past, prolong human life, increase human happiness—these are the opportunities for service than which there can be no greater that are thrust on every nurse, and, if she has been well trained in bacteriology and surgical technic, she cannot fail to accomplish the desired results.

6. The examination of milk and water, pasteurization of milk, infections carried by milk and water.

During the second period the pyogenic bacteria should be studied, fitting into the skeleton outline the characteristics, modes of entrance, morbid processes produced, modes of exit, and modes of destruction. Smears should be made of available materials yielding pus, cocci, or slides may be secured through physicians connected with the hospital.

Outlines should be made for the following common pathogens: the tubercle bacillus, pneumococcus, typhoid

bacillus, dysentery bacillus, diphtheria bacillus, Neisser's organism and the *spirochaeta pallida*. A number of diseases infectious in character, but whose specific causes are as yet unknown, are smallpox, rabies, scarlet fever, measles, whooping-cough, mumps, yellow fever. These are being diligently studied by many investigators, and, one by one, will yield their secrets to the causes of education and humanity.

Certain diseases are caused by organisms of animal origin or protozoa. The two most common, malaria and amebic dysentery, should be included. Lectures covering this period may be given by one or more physicians: (1) pyogenic infections; (2) specific infections; (3) infections of unknown cause; (4) protozoan infections.

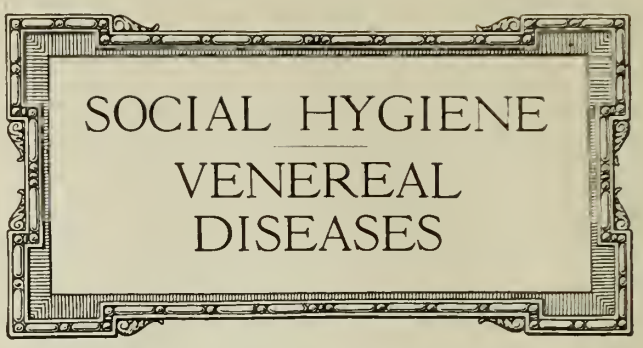
The third period should cover: immunity; serology; urinalysis; natural and artificial immunity; active and passive immunity (illustrations should be given making the different processes as clear as possible); the preparation of immunizing agents and the administration of each should be explained; the Widal test should be explained, and demonstrated if possible; qualitative urinalysis, showing the simple tests for albumin and sugar; the use of the specific gravity spindle; the reaction to litmus; explanation and demonstration of the microscopic examination of sediment for casts, blood, and pus; the hygiene of the nurse, the sick room, and the patient, on which subject the students should be required to write a short essay in the knowledge of the work covered.

The four lectures following this period should cover: (1) immunity—Ehrlich's theory, the theory of opsonins and phagocytosis; (2) antitoxins, serums, and vaccines, illustrating active and passive immunity produced by them; (3) the Widal test, the Wassermann test; (4) character as developed by the study of bacteriology.

The first three should be given, if possible, by a physician practicing serum therapy; the last by the teacher of the classwork. Such a course should yield a fair and workable knowledge of bacteriology to the nurse from her own standpoint. A reference library including all available text-books for nurses on the subject would prove of great value. The nurse is of great economic value, and hospital training schools are being called on to produce specialists in many fields of endeavor. All of these demand a broader and more systematic study of the various branches relating to nursing. There is no more important subject among them, nor one more far-reaching in its influence on the ultimate success or failure of the character and work of the individual nurse, than bacteriology. It is closely related to many vocations; sanitary engineering; agriculture; domestic science; dairying and cheese-making; preserving, pickling, and canning of foods; the making of vinegar, liquors, and wines, and all the fermentation industries; the manufacture of biological products; the transmission and control of communicable diseases; sanitation, susceptibility, and immunity—all these are based on the principles and practice of bacteriology.

An understanding of the rudiments and underlying principles common to all branches of its study can be fitted into the various special lines, and subjects more strictly limited to commercial interests or to medicine.

I earnestly plead for the practical, but also for the more intelligent and more thorough, understanding of the subject in its relation to nursing. It cannot be accomplished until we are able to secure proper teaching, prepared teachers, a longer period in the curriculum devoted to its study, and the provision of facilities for carrying out the demonstrations and experiments.



Conducted by WILLIAM F. SNOW, M. D.,
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Clinics for Venereal Diseases—Why We Need Them—How to Develop Them[1]

BY WILLIAM F. SNOW, A. M., M. D., General Secretary The American Social Hygiene Association.

[Concluded from December issue.]

II

If the need for venereal disease clinics and hospital facilities be conceded, the question arises, how may they be developed? This, of course, depends on what they are to accomplish, who the patients are, and what foundation already exists for their establishment. Reverting to the "sanitary axioms" outlined, it may be said that ample warrant exists for spending any amounts of money required either by public or private effort to combat these diseases. The clinic is the complement of the practitioner in the diagnosis and treatment of infected individuals, restoring them to health and efficiency on the one hand, and, on the other, protecting the public through shortening periods of infectivity and lessening the contacts of patients with members of the community. Thus the clinic occupies a strategic position on the battle line midway between the health department and the medical profession. It is undoubtedly true that that clinic which causes the least inconvenience and a minimum demand on the thoughts, efforts, and compliance of individuals will most readily secure patients and be the most successful. It is also true that the lowest unit of cost for the widest benefit to the public should govern the economic rating of the clinic, and that this rating should be frequently checked up by accurate measurement of the results obtained. As yet only a few comprehensive experiments in developing venereal disease clinics have been made. From these the following seem to stand out as essential factors in the success of such clinics:

1. A SPECIALIZED DEPARTMENT OF THE GENERAL DISPENSARY IS A PRESENT NEED

Each dispensary or out-patient department of a hospital which proposes to establish adequate treatment for venereal diseases and render the greatest service to society must correlate the work particularly with that of its genitourinary, gynecological, and dermatological clinics. The administrative plans which have thus far found favor are of two general types—(a) provision for all venereal diseases of men by the genitourinary division and of women by the gynecological division; (b) provision for gonorrheal cases by these divisions, but transfer of syphilis cases to

[1]Read at the eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

a special division of syphilology or dermatology and syphilology. The haphazard treatment of venereal diseases, especially in their late stages, in whatever clinic the cases may have been discovered, is no longer indorsed, although it is still frequently the practice. Separate venereal disease clinics are practical, but have not been favored in this country. This is due partly to lack of recognition of the social aspects of these diseases, but largely to the necessity for avoiding in either clinic or hospital anything which tends toward publicly distinguishing the patients under treatment for this class of diseases: It is possible that eventually there may be evolved a plan for a separate venereal disease clinic, administered by salaried officers and organized as a major division of the dispensary, but receiving all its patients through nominal registry in the other clinics prior to transfer. Until some such solution is offered, rapid progress cannot be made.

2. ADEQUATE EQUIPMENT AND PERSONNEL ARE ESSENTIAL

It is self-evident that adequate equipment for diagnosis, treatment, and reexamination is essential for efficient work, but this is only slowly being realized in practice. What this equipment should comprise in addition to the consultation rooms, furniture, sterilizing apparatus, dark-field microscope, examination and treatment instruments, and supplies, depends on the extent of cooperation with other clinic divisions, the laboratories, and the hospital in-patient and social service departments. Probably in no other class of diseases is it so important to base the diagnosis, treatment, and discharge on the combined testimony of the patients' history, repeated clinical examination, and the findings of the laboratory. If the pathological and bacteriological laboratories provide their services, and the preliminary history taking is provided by other clinic divisions, the necessary equipment is greatly lessened, especially as to personnel.

3. THE COMMAND OF A NUMBER OF HOSPITAL BEDS IS REQUISITE

The venereal disease clinic ought to have always available as a part of its equipment, or under the direction of its staff, several hospital beds for observation purposes, the temporary care of acutely contagious or urgent surgical cases, and the administration of salvarsan or its substitutes to certain individuals. In some institutions this service can be supplied by the in-patient department in return for services of the venereal disease staff in surgical, ophthalmic, neurologic, or other hospital cases in which syphilis or gonococcus infections are a factor. The hospital is, of course, of minor importance in considering treatment as a general factor in the eradication of venereal diseases, because early diagnosis and ambulatory treatment are the great essentials; but the hospital is of major importance in many individual cases, and is essential in certain cases where removal of a patient from his home is necessary for the protection of others.

4. THE CLINIC MUST ATTRACT PATIENTS AND EARN THEIR RESPECT

If the clinic is to be of service in preventive work, it must secure patients at the beginning of their infection and hold them under treatment until danger from them as active carriers has passed. This means, first, adaptation to the needs of the patients through convenient clinic hours, privacy, and prompt meeting of appointments. Evening clinics particularly are required, attended by a sufficient number of physicians to insure a reasonable equivalent of the personal attention given to patients in private practice. Considering the individual clinic as a unit in the general scheme for combating venereal diseases, it is desirable to study the area which it can advantageously serve, and organize its staff and schedule of hours and fees with due regard to the prevailing nationalities, occupations, social status of residents, and facilities for private practice within that area. Supplementary units, to serve areas or classes of patients, should be encouraged under the same or other management.

5. THE CLINIC MUST HOLD ITS PATIENTS UNTIL TREATMENT IS COMPLETED

The development of practical regulations for determining the progress of treatment and for discharge is a necessity if patients are to be held under treatment. It is equally vital for this purpose that a comprehensive system of follow-up be applied to those cases in which the patient fails to return as instructed. A number of dispensaries have made remarkable progress in this direction.

6. EVERY PATIENT NEEDS EDUCATION CONCERNING HIS DISEASE

Clinic patients should receive full instruction concerning the nature of their diseases and methods of protecting others with whom they associate. The opportunity for this service is commensurate with the time and attention the staff may devote to it. Certain aids are desirable. Appropriate signs, leaflets, and pamphlets have been demonstrated to be of great value. Some dispensaries require printed matter in a dozen languages to be intelligible to all of their patients. The selection of orderlies, social workers, and clinicians who collectively speak the languages the patients know best, and who are required to cooperate in the latter's instruction, is one of the most encouraging of recent developments in this field of preventive medicine. Printed statements especially designed to interest the practitioner should be sent at intervals to every physician in the administrative area, informing him of the facilities of the clinic, its hours, and its plans for cooperation with him.

7. SERVICEABLE RECORDS ARE INDISPENSABLE

Simple and complete records of all cases are necessary for the efficient administration of the clinic, and should be readily available for all proper uses by the health authorities, other dispensary staffs, and others who in the course of any patient's history may become responsible for his treatment or the protection of the public. It is only necessary to read the disheartening report of any one of the recent surveys of venereal disease facilities to be convinced that this most vital factor in clinic efficiency is almost completely ignored in our American institutions. The technical equipment and requirements for recording and filing histories and other data cards have been so simplified that there is no sound argument in defense of continued failure in this part of clinic work.

8. PAY CLINICS AS WELL AS FREE CLINICS ARE DESIRABLE

As a matter of economy and good citizenship, all patients who can pay something toward their treatment should be encouraged to pay. This end seems to have been best promoted thus far without embarrassment to patients by the provision of free and pay clinic hours, and the establishment of advisory consultation offices under independent auspices, such as the health department or a social hygiene society, where individuals may go or be referred for free advice on how to secure proper diagnosis and treatment. The clinic has a great opportunity to work out for venereal diseases the practical methods by which the commonwealth may secure adequate and fair treatment for all infected

individuals of whatever social status, residence, or financial resource.

9. SOCIAL SERVICE AND CLINIC EXTENSION WORK SHOULD BE PROVIDED FOR

Every patient who comes to the clinic offers a starting point for cooperation with a host of social agencies in not only his restoration to physical health, but in his social and moral rehabilitation, which are essential if he is to avoid reinfection and consequently further exposure of the public to the spread of his disease. The social service departments of a few dispensaries and hospitals that have seriously studied this problem have demonstrated this to be a most fertile field for service and for increasing efficiency through reducing abuse of clinic privileges and the frequency of application for treatment. Cooperation, particularly with official departments of health, charities, and corrections along these lines, and in providing convalescent wards and occupations, especially for syphilitics, has presented encouraging possibilities.

As the socialization of medicine proceeds, the work of the dispensary will receive greater emphasis as a factor in health conservation. The venereal disease clinic will then become an administrative center, from which a varied extension service is conducted. Experience shows that the closest cooperation is desirable between the dispensaries and the medical profession. It is possible that gradually the clinic will add to the staff within its area of service a number of private practitioners as associate clinicians, each of whom agrees to advise in their homes or at branch dispensary offices a limited number of clinic patients who are under supervision and require periodic examination and possible return to the clinic for salvarsan or other treatment. In line with this same idea of extension service, it is probable that some plan will be worked out whereby the clinic, for purposes of advice and treatment, may follow the patients to their places of employment in certain industries which do not have a medical director, but whose owners will cooperate in the establishment of this form of field dispensary service.

10. STATE COOPERATION IN THE SUPERVISION AND SUPPORT OF VENEREAL DISEASE CLINICS IS DESIRABLE

Here and there the practical importance of the venereal disease clinic to the public health has so impressed itself on students of preventive medicine that the establishment of such clinics by health departments is advocated, and in a few instances is being tried out. As a substitute proposition, it has been suggested that the health department license all clinics offering treatment for venereal diseases, and require them to maintain a specified standard of efficiency. One such standard has been carefully worked out by the Associated Out-Patient Clinics of a large city. In some form it is probable that public supervision will be established. This will undoubtedly be followed by the demand of dispensary and hospital authorities for public assistance, which should be forthcoming, for there is scarcely room for argument as to the immediate public benefit to be derived from properly conducted clinics for this class of diseases.

Thus may the venereal disease clinic be developed into what has been called "a militant force for prophylaxis." There are now approximately 900 general dispensaries in the United States. The majority of these, in some degree, touch this problem, but less than fifty are at present wholeheartedly and hopefully grappling with it. Statistics, estimates of cost, and accurate data on the experiments now in progress are being slowly gathered for publication,[1] and more clinics may confidently be expected to enter this field of service. If success can be attained in the gradual eradication of syphilis and gonococcus infections—the last among the great plagues of world-wide prevalence which afflict mankind unchallenged—the costs, however great in money, educational effort, and regulation of personal conduct, will be immeasurably exceeded by the gains. Clinicians and hospital directors, in common with public health administrators, have the opportunity to cooperate in a service as great as that of conquering yellow fever and uncinariasis if they but seize this opportunity.

Suggestions About Building a Refrigerator

If you can't have a good, large refrigerator in which to keep sufficient quantities of the perishable foods to enable you to buy advantageously, you can build one for a very little money that will answer the purpose.

Pick out a corner of the basement where you can preempt a small window, put in an extra window and frame, and through the double frame bore a hole with an auger an inch or inch and a half in diameter, fit a piece of tubing or pipe in this hole so that the ventilation can be regulated; when it is hot outside, put a tight-fitting cork in the pipe, to keep the hot air out; when it is cold outside, you can take out the cork, or you can open both sash; fly screening and cheese cloth will keep everything out, including dust.

Now build a double-jacketed box, with this window as a nucleus, of sufficient size to hold the amount of meat or vegetables you will want to keep. Let the three walls go to the ceiling; only first see that there are no hot pipes inclosed. Use 2x4's to make the frame, and board up with clear tongue and groove on both sides after putting a good, heavy layer of building paper, or preferably cork sheeting, on the 2x4's. Make your door of the same material and thickness, and swing with heavy refrigerator strap hinges.

If the floor of the basement is concrete, cut a hole and drain with trap to the sewer somewhere in the neighborhood; if it isn't concrete, get a galvanized iron pan large enough to hold the ice, set this pan on a frame so that the ice will be pretty well up in the box, and connect the bottom of the pan with a pipe to the sewer for drainage. Put up some meat hooks. In the summer you will put in half a dozen to a dozen big cakes of ice, according to the capacity, and as cold weather comes on use less and less ice and more and more outside cold air. All this may seem complicated, but after all it is very simple.

A new annex to the Custer County Hospital, Miles City, Mont., erected to afford accommodations to private patients, will be opened shortly. This department of the hospital has been leased by the Presentation Sisters, and will be under the immediate direction of Sister Mary Joseph, formerly of Aberdeen, S. D. The capacity of the building is 30 beds.

St. Anthony's Hospital, Columbus, Ohio, recently celebrated the twenty-fifth anniversary of its founding. The institution is conducted by the Sisters of St. Francis, and has cared for more than 27,000 patients, including infirm aged.

[1] It has been impracticable within the limits of this paper to refer specifically to dispensaries, hospitals, health departments, and social hygiene agencies which are trying out the measures suggested, but the American Social Hygiene Association, 105 West Fortieth street, New York city, has printed matter on these points which is distributed on request.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
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Dr. Joslin's Paper

For those of us who are interested in dietotherapy, Dr. Joslin's articles are always full of meat. His association with the Department of Theory and Practice of Medicine of the Harvard Medical School, as well as with the Nutrition Laboratory of the Carnegie Institute of Washington in Boston, has afforded him an opportunity to accomplish a very great deal along these lines. His paper published something less than a year ago on the Present-day Treatment and Prognosis in Diabetes was by far the best discussion of the Allen treatment of diabetes that we have read.

This paper, which was read before the American Hospital Association, gives an equally clear perception of the hospital dietary.

Chicago Dietitians Organize

The dietitians of Chicago have formed an organization known as the Dietitians of Chicago. Their object is the discussion of their several problems and other subjects of mutual interest. Miss Perry, of Michael Reese Hospital, is president; Miss Stewart, of Cook County, vice-president; Miss Barber, of the German Hospital, secretary. These three comprise the Program Committee. The third Friday of each month is the date appointed for meetings of this association. We hope we may have frequent reports of what they are doing. A similar organization has been formed in New York, and also one in Cleveland.

There is great need for such cooperation among the dietitians, as they are entering on an entirely new era in the development of their work.

Report of Ohio Home Economics Meeting

The annual meeting of the Ohio Home Economics Association was held in the new Home Economics Building, at Ohio State University, Columbus, Ohio, November 10 and 11, 1916. About 150 people, representing various schools and institutions of the state, attended the meetings.

The meeting opened Friday afternoon with a short business session, presided over by Miss White, of Ohio State University, at which time committees were appointed and general business of the association was attended to. This was followed by two addresses: "Fitting Home Economics Work to Community Needs," by Dean Vivian, College of Agriculture, Ohio State University; and "Application of Home Economics to Present Situation in Germany," by Sarah T. Barrows, assistant professor of German, Ohio State University. This was followed by a tea and an inspection of the new Home Economics Building.

Saturday morning a short business session was held, after which the meeting divided into two sections: Institutional Section, with Miss Lulu Graves, Lakeside Hospital, Cleveland, as chairman; and Public School Section, with Miss Edna White, of Ohio State University, as chairman. An address, "Present Status of Dietitians' Work in Ohio," by Dr. J. H. J. Upham, member of the State Board of Examiners, was given in the Institutional Section, and a general discussion followed. The following officers of the Institutional Section were elected for next year: president, Miss Graves, Lakeside Hospital, Cleveland; vice-president, Miss Deaver, Christ Hospital, Cincinnati; and secretary-treasurer, Miss Skinner, Ohio State University. A committee was appointed to formulate recommendations to be presented to the State Board of Examiners regarding the status of the work of dietitians in the state.

The plans for the Institutional Section of this meeting were not begun until about a month before the date of the meeting. A program was arranged and correspondence conducted which resulted in an attendance beyond expectations and a most gratifying enthusiasm. Dr. Upham's paper was very much appreciated. He presented four problems for discussion which the State Board of Examiners is trying to solve in establishing a proper status for the hospital dietitian, and asked for suggestions to be sent to the board. A committee appointed to act on this suggestion is now at work outlining some of the difficulties of hospital dietitians and suggesting ways in which the cooperation of the board would be welcome. These invitations, coming from the State University and the State Board of Examiners, together with their cordial cooperation, give the dietitians of Ohio a great deal of pleasure. In one state, at least, dietitians have the satisfaction of believing that their efforts are being recognized.

The Hospital Dietary[1]

ELLIOTT P. JOSLIN, Boston.

As I read your program and recognized the names of well-known specialists in hospital management, it was with much diffidence that I ventured to record any opinions of a member of the staff about the hospital dietary. This feeling gained force while my paper took form, because most of the points which I planned to make were criticisms of hospital diets. But when I came to consider closely the dietary of several of our Boston hospitals, to my gratification, though also somewhat to my embarrassment, I found that most of the suggestions contemplated were already in use and the criticisms about to be proposed were no longer applicable. It may, however, do you no harm, you who usually receive complaints of the hospital dietary, to hear various qualities in it held up to commendation.

The food in the hospital dietary should be abundant, plain, simply prepared, inexpensive, not susceptible to waste, and of such a character that it can be easily digested. These attributes are axiomatic, but I expect that your committee on hospital standardization will not find it easy to settle the caloric value of the diet, though the data which they accumulate will be most valuable. Of course the experience in other institutions than hospitals will be very helpful, and I anticipate that the present

[1]Read before the eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

European crisis will furnish data far more useful than any hitherto obtained.

Simplicity in a hospital diet is important because false ideas as to the character of the food necessary for health should not be encouraged in patients. Neither should methods of cooking be employed which are impossible of imitation in small dwellings. The necessity for an inexpensive diet and one not susceptible to waste need not be emphasized before this body, but it will be appropriate to combat a common impression that food should be excessively simple or really of a nature of soft solids to be digestible. In reality, the digestion of most people is admirable, and any suitably cooked food is well borne. One of the best proofs of this is the absence of indigestion among diabetic patients under the former plan of forced feeding or the present low diet. All these qualifications of the general hospital dietary I found existed at one of the Boston hospitals, and undoubtedly are more universal than I supposed.

Especially to be commended was the variety of the food offered the patients, possibly an inheritance of Dr. Howard's plan of rotating the standard portions of the diet in some other number of days than seven.

Stews and boiled meats rightly figured prominently in the menus. Meats so prepared are to be commended because they are soft and do not require good teeth. Furthermore, stews and boiled meats can be kept hot and moist far more easily than roasts, can be served with vegetables and simple condiments, and thus made especially appetizing. Stews abolish the need of soups. Incidentally, such methods lessen waste in the cooking and serving. I deprecate the use of thin broths; they could be quite as attractive and of some nutritive value if thickened. They set a bad example to the patient.

The opportunity of the coast cities to utilize fish freely is appreciated. Since meat, fish, and eggs are not given the patient at night, there remain but fourteen other meals a week, and of those fourteen meals I noted that at least four contained fish as a basis. It is not to be wondered at that protein in a leguminous form figured quite as frequently in the diet as the Boston public would be expected to demand.

The early light hospital suppers do more to give the cardiac patients good nights than they or their physicians suspect. The increased use of fruit now in the hospital diet, as contrasted with former times, reflects the general tendency of the community and is especially appropriate. The discriminations shown by the hospital authorities in the selection of vegetables was gratifying. Thus, at no time in the course of several weeks did I detect that more than one white vegetable was served at a meal. Potato, rice, or macaroni was invariably combined with one of the coarser or green vegetables. Cabbage might be more freely employed, especially in surgical cases. Of course the whole success of its use would lie in the way it was prepared. Why not use cabbage instead of bran and cathartics? It would seem as if bananas might be used more. There is no more waste to a banana than to an egg. The caloric value is high. If suitably prepared, the banana is easily digested. It affords variety; it has a moral value. Did you ever know an individual to commence a banana that he did not finish it? It is an easy way to introduce sugar and milk or cream into the diet. To the uninitiated, ripe olives do not appear expensive if purchased in bulk.

The hospital diet is designed to cure the patient. Even more than rest, it constitutes the chief therapeutic agent.

SPECIAL DIETS

These must be the bane of the hospital dietitian's life. Each succeeding group of physicians devises a new "special diet." Such originality should be discouraged. Often these diets differ very slightly from one another, and much labor might be spared if yearly they were revised by common agreement of the medical and surgical staffs. The dates of the revisions should be printed on the diet slips. Perhaps these special diets do not deserve as much attention, for, as a matter of fact, the day is coming, even if it has not arrived, in which we shall see the passing of the standard special diet. Its place is being taken by the universal adoption of individualistic prescribing of food.

INDIVIDUAL PORTIONS—THE PASSING OF STANDARD SPECIAL DIETS

Already we hear less and less of the nephritic diet, the diabetic diet, the typhoid diet, the obesity diet, the low-protein and low-salt diet, and the gastric ulcer diet, but more and more of how many calories, how much protein, carbohydrate, fat, the patient should receive. There is no such thing as a diabetic diet and no such thing as an obesity diet. We speak of a hyperacidity diet, but no part of the hospital diet should be such that it would cause hyperacidity. The size, age, and special requirements of each patient must be considered, as well as whether he is abed or up and dressed. Such a plan involves extra help, more dietitians, better training of nurses, but the education of the community is progressing. Almost anyone now, even if he has not a mechanical bent, can run an automobile, and almost any modern nurse ought to be able to put mental as well as physical energy into the selection and serving of her patients' dinner. The extra help required in arranging the diets will be more than offset by the saving of food and the shortening of the stay of the patient in the hospital.

COMPLAINTS WITH THE HOSPITAL DIETARY

Fault is frequently found with the diet. I doubt if there is any exaggeration in the statement that, if such complaints were sifted, it would be found that 90 percent related to the methods of serving the food after it left the kitchen. If Dr. Howard's dictum of "let the 'hots' be hot and the 'colds' be cold" were followed, most complaints would vanish. Too much pains cannot be taken in the serving of the food. Even hot, deliciously cooked roast beef provokes no favorable response if served dry. The fact that it is not the quantity or the quality of the food which provokes criticism, but rather the method in which it is served, should ever be borne in mind. In private hospitals this is still more important. Sometimes it seems as if the nurses had received no instruction in serving the food. Private patients resent this bitterly, for the waitresses in their homes are often quite neat and deft in their methods. Do you, as hospital superintendents, realize, as you live sumptuously at Bellevue-Stratfords wherever you go, that some of your nurses may not have been so fortunate or not have been accustomed to such dainty methods of service?

COST AND WASTE

The problem of cost and waste may be divided into two branches—that connected with the food before it has reached the kitchen and that connected with its preparation and until it has left the kitchen. It would be unwise for me to attempt here to express any opinion about the former, but as to the latter I feel less reticence. The return tray of a diabetic patient is a model in dietetic economy. If any of you have looked at the trays returned

from diabetic patients, you will see that the problem of waste is eliminated, for these patients eat everything given them. Indeed, they will eat all the salt in the salt cellar if allowed to do so. If there is no waste in the diabetic diet after it reaches the patient, why should there be in any other diet? Of course it must be granted that these patients, under modern conditions, are often underfed, but I do not believe that this by any means accounts for the whole story. The more important fact is that they are served with great care, and no more food given than is required. In other words, diabetic individualism is carried to the extreme. This involves increased labor on the part of someone, but I believe that the amount of food saved would more than compensate for the extra wages expended. With the increased cost of food, this individualistic feeding will come soon. The fact that the custom is growing of serving individual portions of food to the help shows this tendency. So far as waste in a diet is concerned, however, there is little question that the experiences now being acquired in the European war will furnish us much of value, and lessons of this character will mitigate the many losses which now seem irreparable.

A second measure which will reduce the cost of the hospital dietary and cost per patient is the suitable grouping of similar cases. I cannot conceive how a hospital can persist in having typhoid patients scattered throughout all the medical wards when these might be grouped together in a few rooms. Nor can I understand how diabetic patients can be allowed to remain under the care of many nurses, who may have only one case a year to treat, when these might be grouped under the ready supervision of a single nurse. I have had a wide opportunity of observing the two methods, both in private and in public hospitals. The easy way in which the diabetic dietetic problem is handled in a private hospital, where the responsibility for the diet rests on one nurse, with nurses serving under her for periods of three months, compared with the management of a much smaller number of diabetic patients in another hospital where frequently the nurses have never had a diabetic case under their care, daily forces this on me.

Finally, the prevention of waste should be stimulated in patients. Patients should be taught economic habits in dealing with food. They should not be allowed to see food wasted. Too much praise cannot be given to nurses who are careful to conserve the food supply. The active interest of the staff should be frequently invoked.

The third means of reducing the cost of the food supply you are already seeking by your committee on hospital standardization. I wish I could hear the report of that committee. Surely it will be most edifying. But it should be applicable in greatest measure to the smaller hospitals. The large hospitals—hospitals towns, almost cities you might call them—existing in the large cities can afford experts on hospital efficiency, but the little hospitals cannot, and your committee should do this work for them. Just as soon as the smaller hospitals have put before them the cost of food per patient, then they will be in a position to judge whether they are properly conserving their resources. The government has standardized railroad accounts, and your committee should do the same for hospitals.

"EDUCATIONAL ASPECTS"

The educational aspects of the dietary in a hospital deserve attention. From the administrative point of view first, all emphasis should be laid on the necessity for the better training of dietitians. Too often, when changes are made in the hospital, dietetic staff months are lost because the new incumbent lacks experience. Dietitians should have a period of service in hospitals quite the same as medical students and house officers. It is quite as essential for dietitians to have practical experience, and to bear responsibility under supervision in the arrangement of diets, as it is for house officers to be given training and responsibility in the care of patients.

Nurses are already given courses in dietetics, but the need for more instruction is daily apparent, because treatment in hospitals more and more is based on quantitative variations in the diet. Experience alone will enable nurses to carry out orders properly. Nurses may know more about diets than the older physicians, but they do not, as a rule, know more than the present younger group of doctors. All nurses working in institutions should have demonstrated to them the necessity for the avoidance of waste. They should see a garbage inspection, and be shown in this way how useful they can be to their institution. In order to familiarize them with the caloric value of foods, each nurse's dining room should have a "calorie" table, and a group of nurses should be assigned to it for a week and calculate the values of the foods they eat. The students adopted this plan at their lunch room in the Harvard Medical School with profit. Practical instruction of this type is interesting, stimulating, and costs nothing.

Students require more instruction in dietetics than they now receive. It is for the interest of hospitals to encourage their interest in patients' diets, to encourage their asking questions, and to bring out their criticisms. Students will talk when house officers are afraid to express opinions. By this means many old-fashioned notions will be eliminated from the dietary. They, too, should see a garbage inspection.

Finally, the hospital staff should have presented to it in brief form each year some of the important administrative problems which come up to the superintendent, and foremost among these is the dietetic problem. Is not the staff perhaps too often told not to do this or that, whereas, if assembled in a body and their reasons for innovation proposed were set forth, its sympathy with new methods would be easily gained? It is easier to lead than to drive.

Most of all, the patients require instruction in the diet. No patient should go out of the hospital without having had explained in one way or another the advantages of the diet given. His stay in the hospital should be a course in hygiene. With most cases this would be in the nature of an explanation of how to procure simple foods at low cost, but with others detailed instruction should be given. The subject should not be left until the last day, but the important points of diet should be systematically taught throughout his stay. Medicines are easy to take, but the reasons for special diets are easily forgotten. If a patient requires a diet for constipation, he should be given such a diet in the hospital, and its character should be explained so many times that he will not forget it. The diets for patients with diseases of the stomach and intestines are not complicated, but the reasons for their peculiarities are often not appreciated. With diabetes, diet, except in very mild cases, is everything, and in this disease the stay of the patient in the hospital is almost exclusively for the purpose of being taught dietetics. The whole aim in the modern treatment of diabetes is not to render the urine sugar-free, but rather to so instruct the patient that he can keep it so when at home. In the treatment of diabetes, not only the patient, but the relatives, must receive instruction, for they will care for the patient later on. Patients learn readily, and children more so than adults. Indeed, in the kitchen at the Deaconess Hospital more

than one little girl has acquired the art of cooking, and I always feel comparatively safe in sending home a 12-year-old child on a diet, because I am quite sure it will be followed. This instruction of patients' relatives is not a new procedure, for the standard rules in your out-patient departments for the feeding of children are not only specific, but designed to instruct the mother as well. Furthermore, I was interested to see that the directions for stomach cases in the out-patient department of the Massachusetts General Hospital contain few specific statements about diet, but such excellent general advice that, if followed, indigestion must disappear.

The diet of each diabetic patient is prescribed in simple terms, and not uncommonly 50 to 100 words cover all the orders given a patient for a three weeks' stay. Even these are written in abbreviations. The problem is simplified because diabetic patients eat chiefly eggs, meat, bacon, fish, oil, cream, and groups of vegetables containing 5, 10, and 15 percent carbohydrate. How very simple the matter is will be seen by inspecting one of the daily charts. These charts are simply large blocks of newspaper paper, and it will be seen that the diet for 10 patients for two meals occupies very little space. The charts hang in the kitchen, and Miss Smith, who is in charge of this portion of the hospital, usually weighs out the food herself, and the two nurses who aid her in the care of the 17 patients, with the help of the patients, distribute the trays. With each tray goes a little card, specifying the amounts of the various foods served. At the end of the day these cards are collected, the amounts of the various foods are added together by the patient, and the content of carbohydrate, protein, and fat reckoned. New nurses find it complicated, and so do new patients, but I do not remember a 12-year-old child who has been unable to reckon up its diet. In fact, usually the children are used as teachers of the newcomers, and it is sometimes quite amusing to see a 12-year-old child teaching a patient of 60. It does no harm for the patients to reckon up their diets each day in the hospital, although it may be unnecessary for them to do it outside, for one tries to avoid later weighing of the food.

Patients are welcomed in the kitchen on invitation, are deliberately exposed to temptation, and special arrangements are made to have patients' relatives come to the hospital to learn how to prepare the food. To lessen cost, patients' services must be utilized. Europe will teach us many lessons in this regard. I hope for a diabetic patients' vegetable, not flower, garden. A few nurses have spent a week, paying their own board, and volunteering their services at the hospital for the knowledge gained. They have an opportunity of seeing the cases, and of learning how to arrange their diets, test their urines, and how to make these patients comfortable while going through the treatment. By seeing a group of patients, nurses cease to be afraid to carry out rigid treatment with individuals. Then, too, they usually see some cases who are doing quite well, have an opportunity to see cases who have been under treatment for several years, and by this means are encouraged to persist in the rigorous treatment of severe cases, to which they are usually sent. As you are aware, the demand for good diabetic nurses considerably exceeds the supply, and it is a type of work peculiarly attractive to a nurse who has a scientific bent, enjoys accuracy, and likes to exercise her mind.

COOPERATION

Cooperation in hospitals between superintendents, nurses, and the medical, surgical, and pathological staffs, should be more intimate. Too often the horizon of each has been limited by his own department. The same practice rules elsewhere—in fact, is universal—because it is human nature, but lessons in cooperation are now being taught the world on every side. We must not be behind in this movement. You have kindly asked me to speak to you instead of listening to you, but I shall not forget to reverse the status, and our medical societies will gain in the exchange.

The Chemical Composition of Commercial Glucose and Its Digestibility

BY DR. J. A. WESENER, AND PROFESSOR G. L. TELLER, of the Columbus Laboratories, Chicago, Ill.

[Continued from the December issue.]

To determine on the nature of carbohydrates in glucose, the authors have recently made a long series of fermentation tests, using compressed yeast of the kind commonly employed by bakers for the making of bread. These experiments were made under conditions suitable for collecting the gas and determining the relative amount of fermentable sugars present by the quantity of gas produced. Where the work is carefully done, very concordant results can be obtained. In these experiments it was found that a certain amount of glucose is always fermented and a still larger amount is not fermentable until it has been converted into some other form of carbohydrates by the use of diastase, either from malt extract or from some other source. In some series of experiments, gas was obtained on the original glucose equivalent of 28 to 33 percent, calculated as cane sugar. When, however, the glucose was treated with malt extract, or with other diastases such as we know to be instrumental in the digestion of glucose and other starchy products in the body, a very marked increase of the amount of fermentable sugars was obtained.

Where yeast acts upon pure cane sugar and upon pure dextrose, the amount of gas produced during the fermentation with like quantities of the same compressed yeast is closely proportional to the amount of sugar present. Some things have been found in our experiments which have shown that where certain starches, or starch products, are acted upon by malt and the result of the mashing is subjected to fermentation, a larger quantity of gas will be obtained than is directly proportional to the amount of sugar which we should expect to be produced from the starch present; thus, in treating with malt extract the prepared starch known as mazam, a considerably larger proportion of gas is obtained than we should expect from the amount of starch used, assuming that the usual amount of dextrose was eventually obtained from the starch by the combined influence of the malt extract and the maltase secreted by the yeast itself. Mazam is a starchy preparation obtained by hydrolyzing starch much the same as by gelatinizing it with boiling water, except that in the mazam the starch is subsequently dried and flaked. The amount of gas produced from the dry starch present in mazam has been found in several experiments to correspond to as high as 122 to 128 percent of the starch used, calculating on the basis of pure dextrose, to which the starch must be eventually converted before fermentation.

As is well known, most of the cereal foods—corn meal, Quaker Oats, rice, Cream of Wheat, etc.—and materials baked from them, like bread, are rich in carbohydrates, which consist almost wholly of starch. To show a comparison between the carbohydrates of these several foods and glucose, they were mashed with malt extract as de-

scribed above and subsequently fermented. First a complete analysis of the foodstuffs was made and the amount of carbohydrates determined in the usual manner (by difference), after subtracting from the total weight of material the amounts of moisture, ash, protein, fat, and crude fiber. Then the same quantity of each material was mashed at a temperature of 50° C. for two hours with a properly prepared solution of cold water extract of malt, cooled to the proper temperature, 15 grams of yeast added, and the gas resulting from the fermentation collected and measured. The corn meal, Quaker Oats, rice, and Cream of Wheat were well cooked, probably more thoroughly than they would ordinarily be as prepared for consumption on the table. The Corn Flakes and Shredded Wheat are breakfast foods prepared for immediate consumption and required no further cooking. Irish and sweet potatoes were baked in the usual manner and the edible portion carefully dried at a low temperature and powdered. The same was done with the white bread.

The results of these experiments are given in table I,

TABLE I. GAS PRODUCED BY FERMENTING MALTED CARBOHYDRATES OF CEREAL FOODS COMPARED WITH MALTED GLUCOSE

	Percent total carbohydrates	C.c. gas for 5 grams of material	C.c. gas for 5 grams carbohydrates in material
Corn meal, well cooked	78.67	920	1170
Quaker Oats, well cooked	66.55	760	1143
Rice, well cooked	76.30	870	1140
Cream of Wheat, well cooked	75.50	880	1165
Corn Flakes	81.52	840	1043
Shredded Wheat	75.25	780	1030
Baked potatoes, dried	86.30	945	1095
White bread, Vienna, dried	75.70	840	1110
White bread, Pullman, dried	75.40	820	1090
Bran bread, dried	78.56	640	815
Glucose	80.00	880	1100

together with the amount of carbohydrates found on analysis and the total gas calculated to 5 grams of dry carbohydrates. It will be seen that the results obtained from glucose compare favorably with those obtained from several cereal foods and potatoes used, indicating that the dry matter of glucose yields substantially as much food material as many of these cereal foods, especially when allowance is made for the increased sugar content due to the hydration of the starch of the cereal foods.

A comparison was made in the fermentation of a number of the starches digested with malt extract, similar to that made on cereal foods. Here, as in the case of mazam, there is a quantity of gas produced in excess of what we would expect to find when we consider the amount of sugars which should normally be produced from the starches by hydrolysis. This is true of all the starches in this comparison, except in the case of rice starch, in which the gas is, for some reason, less.

TABLE II. GAS PRODUCED BY FERMENTING VARIOUS STARCHES WITH YEAST[1]

	Total gas produced, c.c.	Gas, corrected for that from malt extract	Gas equivalent to cane sugar, percent
Malt extract	220		
Wheat starch	1280	1060	103.9
Rice starch	1180	960	95.1
Corn starch	1270	1050	102.9
Potato starch	1300	1080	105.8
Glucose (solids, 82.1 percent)	1060	840	82.3
Cane sugar (5 grams)	1020		

Compiled analyses of a large number of malted liquors, including ale, porter, stout, beer, etc., show that in all cases there is a quantity of reducing sugars left in the malted liquor after the fermentation has been completed. This fermentation often extends over a considerable period of time, generally amounting to several weeks. The original wort used for fermentation presumably contains in the neighborhood of 12 to 13 percent of extracted matter. After fermentation a greater or less quantity of unfermented matter still remains, which is grouped together under the general name of extractives. The average amount of unfermented reducing sugars, calculated as maltose, approximates close to 1.5 percent, as is shown in table III.

TABLE III. UNFERMENTED PRODUCTS IN MALT LIQUORS

Liquor	No. of analyses	Percent extract	Reducing sugars as maltose	Dextrins	Reducing sugars percent of total extract
Ale	44	5.59	1.07	1.81	17.8
Porter (Stout)	44	7.97	2.06	3.08	25.8
Weiss beer	33	5.29	1.56		29.9

One-half ounce per quart equals 1.5 percent. While this is not large when taken upon the liquor itself, it still is sufficient to amount to about 0.5 ounce per quart of malt liquor, and, when calculated upon the total extractive matter, it is from 18 to 30 percent of the amount present.

Malted liquors are recognized and often highly extolled as valuable sources of food, and yet it is seen that a considerable part of the extractive matter which they contain consists of unfermented reducing sugars, of which a considerable part has not progressed to the stage of maltose in the changes which take place between starch and fermentable sugars. It is well recognized that the processes of digestion are more active and energetic as they take place in the body than they can be when they are carried on outside. A considerable number of enzymes have been isolated from the alimentary tract. We do not know to what extent others may be present, but there is evidence to show that all, or nearly all, of the carbohydrates present in glucose are assimilated and used by the body.

We have found from our own experiments, especially those with pancreatin and with malt extract, that the amount of unfermented reducing sugars is not greater where these diastases have been acting upon glucose in connection with yeast than they are where these combined have been acting upon the various starches, and this in spite of the fact that there was originally in the glucose a large proportion of apparently unfermentable reducing sugars already present. We have also found in several experiments that this proportion of apparently unfermentable reducing sugars is largely decreased and in some instances almost entirely removed by the combined action of yeast and taka-diastase, pancreatin, and to a less extent with malt extract. It must be borne in mind, however, in this connection, that while these reducing sugars ordinarily present in the glucose are being removed, other apparently unfermentable reducing sugars are simultaneously produced. It is apparent, therefore, that the material which has been classed as gallisin, or an unfermentable sugar in glucose, yields to fermentation when it is acted upon by proper diastases. In this respect it is like similar products produced by the action of diastases, the result of a step in the conversion of starch to maltose. If it so happened that a greater number of the yeasts which are used for fermentation were of those species which do not secrete maltase, we might conclude that maltose also is an unfermentable sugar. Since the reverse is true, it is not so classed.

[To be continued.]

[1]Starches fermented with yeast after boiling thoroughly in water, then digesting at 45° C. for two hours with cold water extract of malt; 5 grams starch or glucose, 50 c.c. malt extract, 15 grams yeast.

A new general hospital has been opened at Oroville, Wash., with Mr. and Mrs. W. T. Reary in charge.

PREVENTION OF BLINDNESS
MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,
Secretary of the Illinois Society for the Prevention of Blindness,
Chairman of Committee on Social Hygiene of the
American Nurses' Association.

Please address items of news and inquiries regarding Prevention of Blindness—Maternity to the editor of this department, 30 North Michigan Boulevard, Chicago.

ILLINOIS SOCIETY FOR THE PREVENTION OF BLINDNESS

* * *

First Report of the Society for the Eight Months from March 1 to October 31, 1916

In the state of Illinois there are between 2,000 and 3,000 needlessly blinded persons. These babies, children, and adults might be seeing today had their eyes been given proper care when their sight was first endangered. Most of this blindness is due to failure on the part of the accoucheur to drop into the baby's eyes, as soon as it was born, two drops of a simple remedy (nitrate of silver, 1 percent, which the state furnishes free) or failure to give adequate treatment when the eyes became sore.

Organized efforts in Illinois to prevent needless blindness was inaugurated when the Illinois Society for the Prevention of Blindness took offices in Chicago, at 30 North Michigan boulevard, on March 1, 1916. Prior to this date, however, valuable work had been carried on informally for some five or six years by a group of volunteers, comprised of both physicians and laymen, which became known as the "Illinois Association for the Conservation of Vision and Prevention of Blindness." This association concerned itself chiefly with educational work relating to the causes of blindness and methods of prevention; it also supported the admirable bill for the prevention of blindness in babies which became effective July 1, 1915.[1]

The work of the association was given a definite impulse in the spring of 1915, when the late Mr. Bryan Lathrop accepted the presidency. As a result of Mr. Lathrop's deep sympathy for those stricken with blindness and his eagerness to prevent needless loss of sight, a full-time secretary was engaged March 1, 1916, to organize and develop a state-wide movement for the prevention of blindness. At this time offices were opened, the name of the organization was shortened to the "Illinois Society for the Prevention of Blindness," and plans for sustained organized work were formulated. The constitution and by-laws were adopted, a charter obtained, an advisory council created, and to date 813 members have been enrolled, whose aggregate annual dues and contributions amount to $4,589.89.

[1]Revised statutes of Illinois, 1915, chapter 38, page 975. An Act entitled, "An Act for the Prevention of Blindness from Ophthalmia Neonatorum, Defining Ophthalmia Neonatorum; Designating Certain Powers and Duties and Otherwise Providing for the Enforcement of this Act." This law requires that all physicians and midwives shall advise the use of "such prophylactic as shall be prescribed by the State Board of Health" (nitrate of silver, 1 percent) in the eyes of all babies immediately after birth, and also that physicians, nurses, midwives, and parents shall report all cases of babies' sore eyes of which they have knowledge to the local health authorities within six hours from the time the symptoms are first observed.

BABIES' SORE EYES

Recognizing the fact that babies' sore eyes, a preventable and curable eye disease of early infancy, is the most prolific cause of needless blindness, the society has bent its early endeavors toward the eradication of this disease. To this end an effort has been made to secure a more general observance of the reporting law above referred to, and to give wide publicity to the tragic importance of caring for babies' eyes.

PROSECUTIONS.—Thirty-two violations of this reporting law have been discovered. One doctor and two midwives have already been convicted and fined, and the attorney-general has handed down authorization for the prosecution of three doctors and four midwives. Evidence is still being collected in 9 cases, while the remaining 13 cannot be carried to completion in court for a variety of reasons, a common one being the unwillingness of the babies' parents to appear against the offending accoucheur.

The practical value of bringing delinquent doctors and midwives into court in these circumstances is being demonstrated even at this early date by the amazing increase in the number of cases of babies' sore eyes reported to the Chicago Department of Health. Whereas there were but 19 cases reported during the six months from May 1 to October 31, 1915, there were 86 cases reported during the same period in 1916—or more than four times as many have been brought to official attention since it has been made known that failure to report leads to unpleasant consequences.

FOLLOW-UP WORK.—Through the courtesy of the Department of Health this society has been enabled to follow up each reported case and make sure that the baby was being given adequate treatment. Not a single case of blindness resulted. Among the cases reported by doctors it was found in some instances that the baby was being properly cared for and no assistance was desired or needed; in others the doctor felt that the assistance of a visiting nurse would greatly increase the chances of saving the baby from blindness, and still others were glad to have the society arrange for treatment, either in a hospital or dispensary, as the home conditions made proper care practically impossible.

A total of 146 cases has been referred to this society from various sources, including those from the Department of Health. Unhappily, this number suggests what *might* be done by an adequate staff for babies in Chicago alone, rather than the number actually cared for, since it has not been possible to make visits in all of these instances. Three of the babies included in this number are known to be totally blind, while six others are blind in one eye. And these tragedies have followed in the wake of a preventable and curable disease within a stone's throw of hospitals where they might have been averted.

One young mother, holding her blind baby in her arms, said quite simply that the baby's eyes might have been treated just as well as not. But this was her first baby, and the midwife and the grandmothers, from the fullness of their knowledge of such things, assured her that "it was only a cold in the eyes," "it was natural for babies to have sore eyes," and "that they would get well by themselves." The baby will pay the penalty of lifelong blindness, while the mother aches with the knowledge that this need not have been.

Most mothers need only be told of the blindness threatening their babies, to be stirred to action. Singularly enough, however, it is sometimes necessary for the state to step in and protect its infant citizens from the destructive effects of parental neglect. In one such case referred

to this society the parents removed a baby, for whom blindness was imminent, from Cook County Hospital against the advice and warnings of both doctors and nurses. The mother was visited in her home, shown photographs of blind children and explained the seriousness of her own baby's condition. In the end, however, in order

Fig. 1. This blindness need not have been. The doctor in attendance did not use preventive drops at birth and treatment was not secured for the inflamed eyes until too late. Because of blindness, this baby was abandoned at Cook County Hospital by its parents.

to secure the treatment required to save this baby from blindness, it was necessary to swear out warrants for the arrest of both parents and place them under bonds of $500 each. The result is a baby with two clear, unscarred eyes instead of another candidate for the school for the blind.

In four other cases the society had to resort to similar measures in protecting the baby against its parents, with the difference that in the latter instances, after all else had failed, the threat of arrest accomplished the desired results. Unfortunately, one of these four babies lost the sight of one eye while efforts were being made to convince the parents of the gravity of the situation.

In one case, after several hours had been consumed in offering one persuasive argument after another, the resisting parents were completely won over by the prospect of a taxi ride—and so at 9 o'clock at night the entire family contented and happy, reached Cook County Hospital, accompanied by the society's agent, bearing the suffering baby. It was finally discharged cured, a possible productive citizen instead of another state charge.

Sometimes the price paid by a baby for the ignorance and neglect of those accountable for its care is not alone its sight. Blind babies are not regarded as valuable assets, and accordingly are not infrequently abandoned by the parents who are responsible for their blindness. Nor do one-eyed babies always find favor in the sight of their parents, for each year a number of these handicapped victims are left at Cook County Hospital and never claimed by their families.

MISCELLANEOUS CASES

While, as has been stated, the society's early efforts have been to save babies from going blind, it has been of assistance, in addition, to a school boy, a girl of 20, and a man of 38. The school boy was referred to the society at the close of the school year by a principal who realized that an interruption of the medical supervision, which had been possible during the school term, would doubtless result in serious injury to the boy's vision, and who did not know what else to do. It was found that the Visiting Nurse Association would willingly supervise the care of the boy's eyes during the summer vacation. The girl had been virtually blind during the twenty years of her life, her sightlessness having been accepted as inevitable and incurable. She was referred to this society, and it was discovered that she had congenital cataracts and might be greatly relieved by surgical treatment. The family was persuaded to allow the necessary operations, with the result that the girl today has fairly useful vision after twenty years of blindness. The man in question was facing extreme poverty because of the effect of his failing

Fig. 2. Needlessly blind for life. She is a pupil at the Illinois State School for the Blind because her eyes were neglected at birth. Twenty-nine percent of the pupils in this school are blind for the same cause.

vision on his earning capacity. The corrective treatment which it was possible to secure for him was of definite and practical value.

While we know full well that many school boys suffering from chronic eye infections, girls with congenital cataracts, and men with failing vision are being helped constantly without the aid of the Society for the Prevention of Blindness, the facts are that these three individuals did not know just where to turn in their need, and so appealed

to a society whose sole object was known to be that of saving sight. These three cases and the blind babies exemplify the same fact—that people are going partially or totally blind within easy access of medical care because they do not know just what they should do, or fail to appreciate what can be done to aid them.

Widespread education, then, is apparently the foundation on which all work for the prevention of blindness must rest, whether babies, children, or adults are to be helped.

THE COST OF NEEDLESS BLINDNESS TO THE STATE

The average cost to the state to maintain and educate a blind person is estimated at something over $10,000. This does not take into account the negative loss of productive citizens—the state's most valuable asset.

Illinois is well to the fore in its legal provisions for the safeguarding of infant eyesight. The Legislature makes an annual appropriation to the State Department of Health to make possible the gratuitous distribution of prophylactic outfits to physicians and midwives; it requires that babies' sore eyes be reported to local health authorities, and there are many hospitals and dispensaries, maintained at public expense, for the treatment of eye diseases. And yet 27 of the 46 blind children in Chicago's public schools are blind because they did not get the benefit of these provisions, and 29 percent of the pupils in the State School for the Blind at Jacksonville are blind for the same reason. Quite evidently the state's provisions are not accomplishing all that they might in the prevention of infantile blindness. The urgent need at present is to secure for the babies throughout the state the preventive and remedial treatment which are free to all. This requires public education.

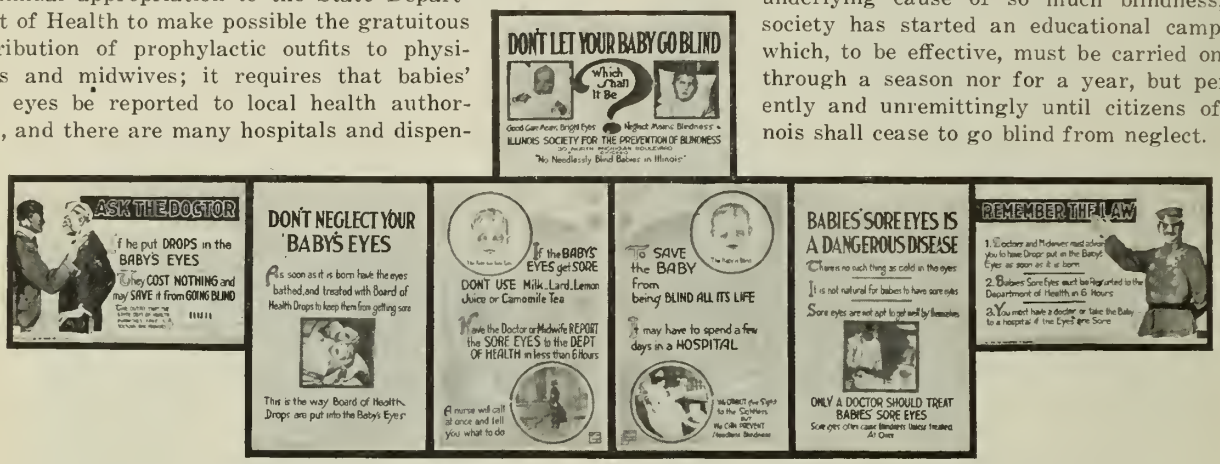

DON'T LET YOUR BABY GO BLIND
Which Shall It Be
ILLINOIS SOCIETY FOR THE PREVENTION OF BLINDNESS
ASK THE DOCTOR
DON'T NEGLECT YOUR BABY'S EYES
If the BABY'S EYES get SORE
DON'T USE Milk, Lard, Lemon Juice or Camomile Tea
To SAVE the BABY from being BLIND ALL ITS LIFE
BABIES SORE EYES IS A DANGEROUS DISEASE
ONLY A DOCTOR SHOULD TREAT BABIES' SORE EYES
REMEMBER THE LAW

Fig. 3. This exhibit is designed to arrest the attention of those who need the warning concerning babies' eyes, and the intention is to show it in such places as settlements, club rooms, and various public meetings. The panels measure 30 inches by 40 inches each, and are in black, white, and gold, and four colors, while the illustrations are photographs and colored hand drawings. Replicas are being prepared on sensitized cloth, which may be sent by parcel post for use in various parts of the state.

About 20 out of every 1,000 newborn babies have sore eyes, and from 5 to 8 of these infections are serious enough to result in injury if not given adequate medical treatment. This injury may be only a slight impairment of vision, due to a small scar, or it may be total blindness. There are approximately 156,000 births in Illinois each year, of which 63,500 occur in Chicago. Accordingly, there are annually in this state about 3,180 babies, including 1,270 in Chicago, who face possible blindness, and only a small percentage of these are brought to treatment. The majority get well without treatment, but there is no way of distinguishing, before it is too late, between those who will and those who will not recover, for a baby may go blind within forty-eight hours from the time the first sign of inflammation appears.

A few who suffer injury because of lack of care find their way in time to the State School for the Blind, some are kept out of sight by their families, some of the partially blind are discovered in the public schools through medical inspection, while the majority struggle through life as best they can with their varying degrees of handicap. It is scarcely necessary to comment on the importance to the state of having all cases of babies' sore eyes given prompt and adequate treatment.

The five babies which this society was directly responsible for saving from blindness would ultimately have cost the state upward of $50,000. But the known number of individuals saved by any organization for the prevention of blindness represents but a small part of those actually saved from blindness, since care is secured for many unknown cases as a result of education. The real saving to the state, then, of both money and useful citizens, will follow in the wake of widespread and sustained publicity.

PUBLICITY

With the hope of dispelling the ignorance which is the underlying cause of so much blindness, the society has started an educational campaign, which, to be effective, must be carried on, not through a season nor for a year, but persistently and unremittingly until citizens of Illinois shall cease to go blind from neglect. This publicity is to be carried on through the distribution of illustrated leaflets printed in several languages, lectures and addresses before all kinds of audiences, the use of lantern slides and photographic exhibits, the aid of the press, and by repeated warnings sounded by doctors, nurses, and social workers.

Leaflets.—The society's first educational leaflet is an illustrated four-page folder entitled, "Directions for the Prevention of Blindness from Babies' Sore Eyes." This is written in simple language and published in Yiddish, Italian, Bohemian, Polish, Lithuanian, and English. It is being distributed by social service workers, visiting nurses, infant welfare nurses, and from settlements, churches, and community centers throughout the city. Moreover, it has been reprinted in full in Chicago papers published in the above-mentioned languages, thus reaching a very large number of women who are likely to be attended by careless physicians and midwives. With slight modifications, this publication No. 1 has been reprinted by the North Carolina Society for the Prevention of Blindness for use in that state, while the New Jersey Commission for the Blind made an appropriation to purchase several thousand copies in all six languages for use in New Jersey.

A total of 120,000 leaflets has been issued (20,000 in each of the six languages) and 30,000 have been distributed, and 34,000 folders and circular letters have been circulated for the purpose of making known to the public the existence and objects of the society.

The lay press of Chicago and throughout the state has

given immeasurable assistance in this educational campaign, while information concerning the purpose of the society's work has appeared in a number of medical and sociological publications, such as the *Journal of the American Medical Association, The Survey, American Journal of Public Health*, and the bulletins of the state and city departments of health.

Lectures and Addresses.—There has been such prompt recognition of the importance of publicity in connection with this work that even during these early months of the society's work the secretary has spoken before two committees of the Woman's City Club, the Chicago Woman's Club, the Chicago Medical Women's Club, the Lincoln Center Mothers' Club, supervisors of the Visiting Nurse Association, the Twenty-fourth Ward Civic League, 600 girls at St. Mary's High School, the Independent German American Women's Club, the Chicago Commons Woman's Club, an evening congregation of the Julia Gay Memorial Baptist Church, the Chicago Ophthalmological Society, two classes at the Chicago School of Civics and Philanthropy, and the Loyola University School of Sociology.

The society is fortunate in having secured the volunteer assistance of Mrs. Gregor Skolnik, who will speak on the care of the eyes before various groups of foreigners—Russians, Poles, and Bohemians—in their own tongues. The society hopes in time to be able to provide lecturers in other foreign languages which are widely used in Chicago.

Lantern Slides and Exhibits.—As illustrated talks are apt to be more impressive and lasting in their effects, the society has two sets of lantern slides, each numbering forty-five slides, for use by its speakers. Photographic exhibits also are valuable aids in public health educational work. The society has accordingly prepared an exhibit on the subject of babies' sore eyes. Before its own exhibit was completed the society secured a photographic exhibit from the New York Committee on Prevention of Blindness for display during Baby Week at the Boston Store, June 16 to 23, 1916, and also the Galesburg District Fair, August 5 to 12, 1916.

COOPERATION

Cooperation spells success in prevention of blindness work, since it cannot be successfully prosecuted by any one organization working alone. Accordingly the society is deeply appreciative of the generous and effective cooperation which has been extended by a number of official and nonofficial bodies. Particularly valuable has been the assistance given by state and city boards of health. The former, at the request of its executive officer, Dr. C. St. Clair Drake, has appointed the secretary of this society as a special agent to assist in enforcing the law for the prevention of blindness among babies, and it is due to the effective work done jointly by the state and city departments of health that the delinquent physicians and midwives previously referred to have been brought to justice.

The Cook County Hospital and the Illinois Charitable Eye and Ear Infirmary have given very practical aid to the society from the beginning of its work. The Subscriptions Investigating Committee of the Chicago Association of Commerce has placed the stamp of its approval on this work, and relations of cooperation have been established with the Committee on Conservation of Vision of the American Medical Association, State Charities Commission, Cook County Board of Commissioners, Chicago Ophthalmological Society, Visiting Nurse Association, Infant Welfare Society, Chicago Woman's Club, Women's City Club, Illinois Parent Teacher Association, City Bureau of Public Welfare, County Bureau of Social Service, Illinois Committee on Social Legislation, the Better Community Conference, church community centers, and settlements and social service departments throughout the city. A large number of the clergy, Catholic, Protestant, and Jewish, have aided the society by referring to its objects from their pulpits and in the church publications, while too much cannot be said in appreciation of the interest and helpfulness of the medical profession.

The Chicago Woman's Club has created a Committee on the Prevention of Blindness for the purpose of forwarding the movement in this state to save human beings from needless blindness.

FORECAST

A report on the activities of so young a society must, of necessity, be less a record of achievement than an indication of what may be done by a firmly established organization. What has been accomplished by an almost unknown society, because of the effective assistance of both official and unofficial bodies and particularly the strong support of the medical profession, augurs well for a successful campaign in Illinois for the prevention of needless blindness. It is the immediate purpose of the society to continue its educational work and its effort to enforce that law to prevent infant blindness, while its general program is:

1. To work for the complete eradication of that scourge known as babies' sore eyes by employment of the methods previously described.
2. To work for the training, licensure, and control of midwives by state authority. (It is in great measure due to the ignorance and neglect on the part of these women that many babies go blind).
3. To aid in the conservation of the eyesight of school children by securing for all schools thorough medical inspection, adequate lighting, lusterless blackboards and desk tops, provision for furnishing eye glasses at little or no cost to indigent children, and special classes for children with seriously impaired vision.
4. To cooperate with the United States Public Health Service in fighting trachoma throughout the state.
5. To strive for better lighting conditions generally in public buildings and conveyances, in schools, factories, and the home, and to do away with the causes of eye strain so far as possible.
6. To promote the safeguarding of eyesight in the industries by more general use of protective devices, such as goggles, guards, screens, etc., and adequate lighting.
7. To try to put an end to the misuse of wood alcohol, a poison which may cause blindness or death if swallowed, or inhaled in an inadequately ventilated place. Wood alcohol in any form or container should be labeled poison, and its use forbidden in beverages, medicines, and toilet preparations.

In short, it is the purpose of the society to work toward the objects as conceived by its first president, Mr. Bryan Lathrop—namely: "To reduce physical and mental suffering, financial loss, and burdens on the community resulting from destruction or impairment of eyesight."

Carolyn Conant Van Blarcom, Secretary.

The Medical Aid Fraternity, an organization formed at Tampa, Fla., a year ago, with the object of affording needed medical or hospital care to members for a nominal monthly fee, has built up a membership of 1,800 and is now arranging for a hospital of its own. A twenty-two-room building has been acquired and is being remodeled for the accommodation of patients. The officers of the fraternity are laymen. Dr. J. L. Efird is medical director.

THE MODERN SANATORIUM

Conducted by ALBERT WARREN FERRIS, A.M., M.D.,
Saratoga Springs, New York.

Please address items of news and inquiries regarding The Modern Sanatorium to the editor of this department, Saratoga Springs, New York.

The Prime Importance of Diet

"Moderation is the best temperance;
Temperance the best diet;
Diet is the best doctor."

A lesson of prime significance and value which is learned at the sanatorium is that of dietetics. No one agency is more important in sickness or in health than the choice of food, its preparation, its variation, and its amount. A French physiologist described man as a digestive tube, with arrangements for locomotion and guidance. A better conception is to regard man as a cerebrospinal complex—a rational, intellectual, and spiritual organism—provided with a system of nourishment, digestive, circulatory, and emunctory, and furnished with apparatus for locomotion, self-protection, and the preservation of the species through the marvelous expression of resident forces.

Life consists of a succession of cycles of growth, nutrition, exercise of function, and decay, disordered or terminated only by disease or injury; and the invasion of morbific agencies may be classed with the entrance of a bullet into the tissues as an injury, without the exercise of much transference of signification.

Errors of diet are responsible for by far the most incidences of disease. Without distinction of phrase, the homely proverb, "Most people dig their graves with their teeth," communicates to us the truth that multitudes shorten their lives and gallop to their tombs through overeating and eating improper food. The term "food" must of necessity and for convenience include also drink, since the only excuse for drink is that it has, or is alleged to have, value in repairing, or reconstructing, or furnishing energy, either in its own form or when catalyzed, or in new combination. We very properly include blood in the tissue group; and we must certainly class water as of equal importance with food, though unable to take its place. Water constitutes 60 percent by weight of the body. It not only forms the bulk of all the numerous fluids of the body, but it forms part of the bulk of living bone, nerves, teeth, nails, and skin, as well as muscle and fatty tissue. Dr. Solis-Cohen says, "The cells of the body are aquatic in their habit." Indeed, they are composed largely of water, and are constantly bathed in it. Its supreme importance will be easily appreciated on contemplation of its functions in connection with the lungs, liver, digestive organs, skin, and kidneys. Of the water taken into the body and manufactured within it, 20 percent is eliminated with the breath, 30 percent by the skin and cutaneous perspiration, 4 percent with the waste from the digestive tract, and 46 percent in the urine.

There is no more imperative demand made by nature than that of thirst. The average man needs six to eight glasses of water daily, in order that chemical reactions may be facilitated, that substances may pass in solution from one part of the organism to another, and that the solid excreted substances may be carried off. Water differs, therefore, from all real foods in its action and function, and deserves much attention. Its chemical constituents may vary within wide limits. It is of prime importance that there should be calcium carbonate in it, not only for flavor, but also in order that better bone and muscle may be built in those who drink it.

The choice of the factors in a successful diet deserves grave consideration. There are those among people of culture and education, people who have had the benefit of study and travel, who retain enough medieval fatalism to claim that the best guide to a choice of food is the appetite. Their claim is that what one desires to eat is good for him. These are words of delusion, unless strongly qualified; for, by a parity of reasoning, repeated potations of liquor are good for the drunkard; a diet of candy is good for small children; chalk and slatepencils are good for the chlorotic girl. To him who says, "Let us eat and drink, for tomorrow we die," our answer will be, "Yes, you will die tomorrow, or perhaps tonight, if you abandon yourself to the vagaries of your untutored appetite." The palate is not an infallible guide to the capabilities of the digestive organs.

To quote from Armstrong, who liberally translates Professor Charles Bouchard, "Man is living constantly under the chance of being poisoned; he is always working toward his own destruction, his own suicide, by intoxication due to products he creates within his own body." The overtaxing of vital organs by improper food, the introduction of harmful flora into the intestine in certain foods, the production and retention in the colon of harmful acids that are absorbed to attack the lining membrane of the heart and blood vessels—all these conditions, occurring ofttimes through ignorance, can be corrected by the use of a proper diet.

So, then, dietetics is a science consisting of knowledge of the chemistry of food, of the nature of waste and repair of tissue, and of the action of digestive organs, and is in no respect founded on the caprice of the sense of taste, or the traditions current among high livers.

Water has received mention, and may be dismissed from further consideration with a glance at the earthy salts. The latter form about 6 percent of the body weight, being very abundant in the bones and the teeth, much less so in all the other tissues as well as the fluids in the body. They comprise phosphate of calcium, and various compounds of potassium, sodium, magnesium, and iron. They are absolutely necessary to life and health, for they play an important part in the metabolic processes, maintain osmosis, and are essential to nervous and muscular reaction. They are taken into the body with various foods, largely in vegetables.

The value of a food is stated in calories. A calorie is the amount of heat required to raise the temperature of one kilo of water 1 degree Centigrade; in other words, to raise the temperature of a pound of water 4 degrees Fahrenheit. This unit, the calorie, is adopted for convenience, because all food is burned up in the body, and the amount of heat produced is in about the same ratio as the amount of other energy produced from a given food when oxidized. The nutritive values of foodstuffs is, to repeat, stated in calories.

Various totals of food are essential in different occu-

pations, the tailor requiring many fewer calories than the stonemason or the ditcher, the draughtsman many less than the lumberman. In ordinary daily life and in prescribing diets in discase, a simple classification of the compounds of the chemic elements in the food is adopted. We group the constituents under the headings of proteids, carbohydrates, and fats; and a varying and proper daily amount of these compounds, meeting the various tissue requirements, is called a balanced ration.

Proteids rebuild tissue and form blood; fats and carbohydrates produce heat and support energy. Proteids are found in large quantitics in all flesh and meats, fish, eggs, liver, and other viscera, chicken and game, milk and cheese, as well as in peas, beans, and lentils. Fats comprise butter, all animal suets, drippings, etc., and likewise vegetable oils; although there is not a parallel nutritive value between vegetable oils and animal fats. Carbohydrates comprise the starches, dextrin, sugars, and the acids of certain fruits and vegetables.

Until recent times it was thought that man was a carnivorous animal. A good many points were strained to demonstrate the alleged truth of the statement from the style of his canine teeth and the acidity of his stomach juices. But it was necessary to fall back on the appetite for meat, and the traditions of high living, when he could afford to pay for it. Carl Voit, of Munich, set the figures for the intake of animal food after averaging the meat consumption of a great number of men of average health. His dictum was that the man of average body weight of 70 to 75 kilos (154 to 165 pounds), doing moderate physical work, requires daily 118 grams of proteid food (including meat, eggs, milk, fish, lobster, brains, kidney), of which 105 grams should be absorbable, 56 grams of fat, and 500 grams of carbohydrate, with a total fuel value of over 3,000 calories, in order to maintain the body in equilibrium. This Voit standard has been commonly accepted for many years. Our own Atwater, formerly of Wesleyan University, after many observations on the dietetic habits of different classes of people and people under different conditions of life, has stated that as liberal a daily allowance of proteid as 125 grams would seem desirable. On the other hand, experimental work and observations during the past few years have suggested the possibility that the real physiological needs of the body may be met by a much lower standard of diet. Professor Chittenden, of Yale University, was led to doubt the almost universal belief in the efficacy of a rich and abundant diet to strengthen the body and increase bodily and mental vigor. He has ascribed this belief to generations of high living. Everyone agrees that proteid decomposition products are a constant menace to the well-being of the body. The liver and kidneys are under constant strain in their efforts to rid the body of the nitrogenous products resulting from an excess of proteid foods. In addition, there is danger to the tissues from intestinal putrefaction and toxemia, should the body lose its ability to digest and absorb the excess of food consumed. Acting on his convictions, Professor Chittenden instituted a series of very instructive experiments, planned so as to show whether body equilibrium and nitrogen equilibrium can be maintained for months or years on a low proteid diet, vigor being unabated and proper resistance to disease being secured. He pursued a series of experiments on each of three types or classes of individuals, whom he describes as follows: 1, a group of five professors and instructors in Yale University, mental workers, and not active muscularly; 2, a detail of thirteen men from the hospital corps of the United States army, moderate workers, who, in addition to routine daily duty, took a vigorous amount of systematic gymnasium work daily; 3, a group of eight young trained athletes, students in the university, some with exceptional records in competitions. Gradually reducing the amount of albuminous or proteid food taken each day, in the course of a month or two he had put his professional men on a diet which supplied but 5 to 9 grams of nitrogen a day, against 16 to 18 demanded by the Voit standard, without loss of mental or physical strength or vigor, and with maintenance of body and nitrogen equilibrium. The tests of the members of the hospital corps resulted in the conclusion that 50 or 60 grams of proteids sufficed, without increasing the amount of nonnitrogenous food. The men were conscious of less fatigue than formerly, and of an improved muscular condition. But the most striking results were reached in the cases of the members of the athlete group, some of whom, while on the restricted diet, won places in competitions, and all of whom improved in muscular ability. No deterioration of any kind occurred.

Naturally, because it antagonizes desire, and because it is an innovation, the Chittenden standard was attacked by many, and is not yet universally accepted. But a similar standard has been in use in Battle Creek Sanitarium for years with success and great satisfaction to the patients, adapted, of course, to individual conditions. The danger of a too great proteid diet lies in the fact that in meats, liver, fish, sweetbreads, etc., there occur dangerous poisons which are all very difficult of excretion; in fact, are prone to retention in certain conditions and diseases. These are the purins. The purins embrace our old friend uric acid, xanthin, hypoxanthin, adenin, and guanin; and they are just as dangerous as their difficult names suggest.

The amount of protein food needed is ascertained in the case of any individual by observing the nitrogen equilibrium. The amount of nitrogen utilized in the body and excreted in the urine should very nearly correspond with the amount of it which is ingested as food. Exercise, of course, governs the total amount of food required, more being utilized by the active individual; but exercise has little effect on the proteid metabolism. Some of Chittenden's squads and a vast number of vigorous people who followed the Chittenden ideas maintain health and strength on more food, but a small proportion of proteid.

Carbohydrates and fats save the protein naturally incorporated in the tissues of the body, and help to maintain the nitrogen equilibrium. Friedenwald tells us that Voit's standard included 56 grams of fat and 500 of carbohydrates daily; Playfair's English standard, respectively, 51 and 531 grams; while Gautier in France suggested 65 of fat and 437 of carbohydrates.

A careful study of many thousand cases leads Dr. Kellogg, chief of Battle Creek Sanitarium, to give the following figures, which, we see, allow a reasonable margin of variation: average daily requirement of protein, 160 to 300 calories; of fats, 500 to 900 calories; of carbohydrates, 1,000 to 1,800 calories.

Our principal problem, therefore, is not to devise ways and means of repairing individuals who are damaged by the poisonous derivatives of large quantities of animal food, but to teach the uninformed or self-indulgent of the dangers of the old *menu* of the trencherman or of the *bon vivant*, and of the absolute sufficiency for health, growth, and muscular power of a dietary embracing very little animal fiesh, or one eliminating altogether meat, fish, fowl, viscera, and entrails, and retaining only eggs, butter, milk, cream, and cheese of the animal foods.

Even such a superficial and cursory view as this of the subject of dietetics cannot fail to impress one with the im-

portance to the sanatorium patient of the science in its application to his individual case. It is important not only to the invalid, but also to the thoughtful person who wishes to avoid becoming an invalid, or to the citizen whose efficiency has been reduced, and whose enjoyment of existence has become impaired by "food poisoning"—that is to say, by the action of harmful acids generated in the digestive tract, and not excreted by the overworked liver or kidneys.

The modern sanatorium furnishes a guide and turns the light on the danger signals for the one who desires to avoid disease, while for the impaired or the invalid it prescribes the food suited to his needs. Herein is a great opportunity for the adoption of a satisfactory method of serving food. Usually the patient is furnished with a list of "thou shalt nots," which become onerous and irritating, as he reads over a largely forbidden bill of fare, with his printed commandments in his other hand. In Vichy, France, the list of allowables and forbidden articles is sent to the chef of the hotel or guest house, who sees to it that, while nothing forbidden is placed on his table, the patient has permissibles tastefully and attractively served, and varied from meal to meal within the limits set by the physician through the dietitian. So should the modern sanatorium interest the patient and avoid the necessity of repeated denial, with the irritation corollary.

ALBERT WARREN FERRIS.

The Service of Interns

A hospital that does not know what to do with interns, and how to get medical and surgical service out of them, should not have the good fortune to get them. There is no other service in the hospital so important as that of the clinical care of patients under the orders of the visiting staff, and there are two ways to get this service—one by employing young ex-interns and paying them substantial salaries, or by having interns. The tremendous cut in the number of medical schools recently and the higher standards for medical students have resulted in smaller graduating classes, and consequently fewer young medical men eligible for hospital service. At the same time, the number of hospitals has grown tremendously, and the service that interns may expect in a hospital has been fairly well standardized. It is not a service akin to that formerly performed by orderlies or men nurses, nor is it a service that calls for menial work.

Nearly every medical school is a participant in a nation-wide plan to standardize hospitals for intern purposes, and these standards call for certain training for interns, including an adequate laboratory of pathology, a proper dietary, proper medical and surgical attention to the sick on the part of the staff, which will enable the interns to get something in exchange for their time and services.

Hospitals had better make up their minds whether they are going to pay house doctors or whether they are going to set their hospitals in order so that they may attract interns. They are going to have to do one or the other.

Miss Beulah Watkins, an experienced nurse, has purchased the Montrose Hospital, Montrose, Col. Associated with Miss Watkins in the conduct of the institution will be a brother, P. Watkins, and the latter's wife, until recently connected with a sanatorium at Wichita, Kan. Miss Minnie Isensee, who has been in charge of the Montrose Hospital for the last two years, retires on account of illness.

QUERIES AND ANSWERS

Method of Overcoming Bulging of Linoleum

To the Editor of THE MODERN HOSPITAL:

Can you tell me the best method of overcoming bulging in linoleum? We have much trouble with ours, and I wish to overcome it if possible.

SUPERINTENDENT MIDDLE WESTERN HOSPITAL.

Hot, humid weather always has a tendency to expand linoleum and make it bulge, if it has not been cemented to the floor. Possibly this is the reason in your case. The best method is to loosen one side and let the linoleum be flattened by walking over it; then, when cooler weather comes, it can be retrimmed and cemented. About one gallon of cement will be required to each ten or twelve square yards, more being required if the linoleum is cemented, with a felt paper lining under it. This lining is unnecessary and increases the expense. The cost depends on the price of the cement used. These cements are furnished by the people who sell linoleum.

Use Too Much Paint

To the Editor of THE MODERN HOSPITAL:

We are trying to keep our hospital looking clean and neat, and we use a great deal of paint. We find that the lower part of the walls get soiled or stained or scratched while the upper part and the ceiling remain clean, or can be cleaned with soap and water. Can you suggest any treatment by which we can keep the lower walls clean longer?

A MATRON.

It would be unwise, as it would be architecturally inexpedient, to use in the private rooms and wards, tile walls or any other surface that would not stain or scratch, and you cannot help having the lower part of the walls stain and scratch. Obviously, then, the thing to do is to reduce the amount of surface to be painted at these frequent intervals.

The best way to do this is to divide your walls by a dado and a frieze. You can have the dado of ½-inch by 3-inch finish rail, running at a height of 4 or 5 feet, and you can have a picture molding at 9 or 18 inches below the ceiling. But picture moldings have gone out of date in hospitals and the wood dado is unnecessary. It is preferable to use stencils in both places. These can be very simple in form, and can be bought by the yard at any wallpaper store, or they may be as elaborate as you like.

Then you can have three colors of paint—say, a deep olive-green between the dado and the baseboard, a lighter green between the dado and the frieze, and a cream above the frieze and for the ceiling; or you can make the same combinations in gray or terra cotta or any other colors.

With your walls treated in this way you can paint the small amount of wall space below the dado as frequently as you like, and this amount of space will be very small because of the interruption by doors, windows, and radiators; indeed, the amount of paint necessary is so small

that the patient need not be removed from even a small private room while the operation proceeds.

Then you can go on washing your walls above the dado and the ceiling, and at long intervals renew the paint on them. By this method it will not be necessary for you to match paints exactly and the whole effect is a pleasing one.

Salaries in Hospitals

To the Editor of THE MODERN HOSPITAL:

Have you a book that tells about all the hospitals in the United States, salaries of officers, including private, state, and city hospitals? The price of the one to which I refer is $1 or $2. A STATE HOSPITAL.

There is no published schedule of salaries of hospital officers in the United States, and we do not know of any place where such a list is to be had; on the contrary, we are quite sure that the information you are seeking is not available except in rare instances.

Hospital superintendents get all the way from $75 per month up to $10,000 per year, depending on so many conditions that they cannot even be enumerated. Assistant superintendents get all the way from nothing (the training being considered equivalent to a salary) up to $6,000 per year. Other salaries in the hospital are quite as far from being standardized except in the nursing department, where head nurses and department heads are generally paid sufficiently high salaries to win competent nurses out of the "private practice" field, and those salaries generally run from $75 up to about $125.

Wages of the commoner hospital employees vary a good deal with locality and with conditions of business. Just now, while our wages are running from $20 to $35 per month and board for both men and women, we are finding ourselves obliged to accept quite inferior service, since the best people are finding more remunerative employment in other lines.

Too Many "Extras"

To the Editor of THE MODERN HOSPITAL:

We are having a great many complaints from paying patients about extra charges. We charge extra for pathological x-ray work, and there are extra charges for unusually expensive medicines and for articles of food not on the menu. It is a fact that sometimes a patient, occupying a $12 bed, may have extra charges that make the bill foot up to $25 or $30, and occasionally even more. But when the doctor orders the things, we have to supply them, and they must be paid for somehow. The doctors quarrel with us about these extras, as well as the patients; but what are we to do about it, since we have no endowment? A PERPLEXED SUPERINTENDENT.

It seems to us that patients have a perfect right to complain who have arranged for their accommodation in the hospital at, say, $12 per week and then find their bill mounting up to $25 or $30; all the explaining that you can do is not going to set these patients' minds at rest about so obvious an injustice. You do not differ from thousands of other hospitals in this country in having extra charges; but the whole system is wrong, and until the system is righted the complaints are going to come.

Of course, the way to do is to have one charge for each bed in the hospital, and include in that charge every item that the doctor may order. Some patients will not need any extras at all, and others will need only inexpensive ones. There is an average somewhere for these extra charges, and the proportion of this average ought to be set against each bed. Suppose, for instance, you have 100 patients, and the total amount of the extras charged in the course of the average week is $500; and suppose your income for the average week from your 100 patients is $1,500; the extra charges would amount to one-third of the total charges against patients, which would be 33 1-3 percent.

Why not, then, increase your rates by 33 1-3 percent, so that when patients apply for admission they can be told exactly what the week's charges are to be, and they can be told also that there are no extras?

From long experience we have found that this is a far more satisfactory way to deal with the matter. It is not the amount of the extra charges, very frequently, that annoys patients, but the fact that, while they thought their bill was to be a certain sum, they find it has been raised on them without their knowledge or consent, and, unless the hospital puts the blame on the doctor for giving the extra orders, the hospital will be held to blame; and if the hospital blames the doctor, it will very soon get into trouble for disloyalty and unethical conduct.

At the outset of such an innovation the doctors ought to be told about it and the reasons ought to be explained to them. As a rule, they are reasonable men and will appreciate the advantages of such a system.

An Economical Power Plant

To the Editor of THE MODERN HOSPITAL.

I note in your magazine that you were kind enough to make suggestions regarding the construction and equipment of hospitals. I am building a small hospital, or rather I have purchased a residence about 50 by 60 feet, three stories high, and to this I am making an addition 37 by 74 feet, three stories high. I purpose, provided it is best, heating the building with steam; in fact, the residence is already equipped with steam. There are three heating problems: first, steam for the building; second, steam for the sterilizers, bed-pan sterilizers, etc.; third, hot water for the fixtures, including the operating room. I can accommodate about 30 patients and the house staff will probably include twenty, so that I have to provide for about fifty people. The building will be furnished with both gas and electricity. If you could kindly make me some suggestions along the line of the best solution of these problems, I will appreciate it. I must consider economy in construction and especially economy in maintenance.

I am greatly pleased with THE MODERN HOSPITAL, and especially with the information in regard to the construction, maintenance and management of hospitals.

NORTH CAROLINA.

This problem was submitted to Mr. Meyer J. Sturm, the hospital architect, of Chicago, who replies as follows:

It is somewhat difficult to answer your inquiry in detail, inasmuch as the information that you give is of a general character. The remodeling of the residence is, however, comparatively a simple matter, as it is taken for granted that you will use the greater part of this building for your administration and the housing of the staff. This would leave the new addition, which you contemplate erecting, entirely for hospital services for your patients and for your operating department.

You state that you must consider economy in construction, and especially economy in maintenance. Let me call your attention to the fact that, while the two are to some extent correlated, the matter of economy of construction is practically fixed, whereas the economy of maintenance is purely and simply one of the interrelation between your departments and the economical arrangement of all of these departments and their equipment, so that your maintenance cost can be brought to a minimum.

The expenditure of comparatively small amounts in the construction, especially so in the installation of the apparatus necessary, often means the saving of these addi-

tional amounts in less than a year in the saving on the maintenance charge, and I would advise that before you start your addition, or even the remodeling of your present residence, you give the fullest thought to this part of the work.

For the purpose of heating your building, it is advisable to use steam, adopting one of the vapor-vacuum systems for this purpose, and to lay out your plant for this heating, and for the running of your sterilizers and the supplying of your domestic hot water for your fixtures, as follows: Your hospital being too small for a complete high-pressure system for your requirements, I advise that you use for your heating one of the sectional cast-iron boilers, or a fire-box tubular boiler if you have the room for it, and, for your high-pressure work and the heating of your domestic hot water supply, a small upright submerged tube high-pressure boiler, carrying from 75 to 80 pounds pressure, connecting with this directly to all of your sterilizers and such cooking apparatus as will be run by steam.

From this high-pressure boiler a line should be taken to your apparatus requiring high pressure, and also to your hot water tank, with the proper temperature control on the latter, so that when the water in the tank is at the temperature required, it will automatically close off the steam from the boiler. Your tank should be large enough for sufficient storage, so that when the high-pressure boiler is not running during the night, you will have sufficient water to carry you through until such time as the boiler is run at capacity. There should be a cross-connection made with a reducing valve between your heating lines and this high-pressure boiler with the proper valves, so that at any time when necessity demands, or in the early spring and late fall, when only a small amount of heat is required for a short space of time to take off the chill, this can be done without the necessity of running two fires in a day of this kind.

All of this heating and high-pressure work should be very carefully laid out and your radiators and all of your piping properly proportioned, for in this way you will have not only an economical installation, but a very economical plant in operation.

In laying out your plumbing the same care should be exercised in having an economical arrangement carefully considered as to location for any future additions which you may wish to put on to the new unit without the increase in this part of your building. The same may also be said of the layout of the electric work. In all of these branches—namely, the heating, plumbing, and electric work—as well as in the general construction of your building, provision should be made for any future additions, and all of the arrangements so made that an increase in the size will be adequately served without the necessity of duplicating such portions as can be put in at the present time. These provisions in the initial cost of your present unit will be practically negligible, but will undoubtedly effect a considerable saving in future units, and will enable you to avoid the annoyance and expense of remodeling in the present building to fit future conditions.

Lumbered-Up Operating Rooms

To the Editor of THE MODERN HOSPITAL:

Some of our surgeons complain that the operating rooms are too full of furniture, and that they do not have room enough to do their work. They say also that the nurses cannot give quick, snappy service because they must dodge about the furniture. These doctors are right, too, but it seems that each surgeon wants something different, and, when we try to please them all, we seem not to please any. What are we to do about it?

A SURGICAL NURSE.

The only way out of your difficulty is to call your surgeons together, explain the trouble to them, and insist on their establishing a definite and detailed operating room technic, including the items of furniture that are to be in the operating room. Tell them at this conference just what the trouble is and how it comes about, and that, while you are trying to please each one, you are succeeding in pleasing none of them. If the surgeons cannot agree on a technic under which their work is to be done, how can they expect the hospital administrative officer to solve the problem? It will be best to begin by demanding of them a set of rules for the operating department, including various steps in the technic. This will bring up operating room furniture, the make-up of trays for the different classical operations, the preparation and use of dressings and materials, the giving of the anesthetics, and so on. The surgeons ought to dictate in all these matters, because that is a part of their work, and the success of their work will depend on proper technic; but you cannot train your nurses and interns and you cannot have discipline unless you do have a definite surgical technic in all its branches.

Too Many Visitors

To the Editor of THE MODERN HOSPITAL:

We are having much trouble about the number of visitors to patients; indeed, our doctors say we let in so many visitors and allow them to stay so long that the patients become exhausted, and that, instead of being benefited by visits of their friends, they are really harmed. But we have no way to regulate the matter, as the nurses say they have not the time to "police" visitors. Can THE MODERN HOSPITAL suggest a remedy?

A MUNICIPAL HOSPITAL.

The control of visitors should be at the visitor's entrance; the nurses have enough to do to attend to the nursing of patients. Since you have been allowing everybody to go up to see patients when they come, there will be an awful row when you attempt to change the system; but it ought to be changed because the doctors are right. It does do patients a great deal of harm to have so many visitors. We all know, too, that it is the habit of visitors to wander about the hospital when they are permitted to do so, and it not infrequently happens that visitors make remarks to patients whom they do not know about how bad they look, and they are likely to say something that will at least by inference give a sick person to understand that he or she is just about to pass away.

The cure is to have a card system at the door. Some of the celluloid goods manufacturers make up for hospitals a regular visiting board. Under the name of each patient in the room or ward is a tiny pocket about ½ inch by 2½ inches long, and in which pocket should be a card, preferably printed with the simple words, "visitor's card," and the monitor of the visitors will write on the card the name of the patient in whose pocket it belongs. Then, when a visitor comes to see—let us say, Jennie Jones—he will be given one of these cards. Presently along comes another visitor and gets the other card. The third visitor who comes will be told that there are already two visitors upstairs, and that no more can go up until one or both return the card to the pocket. On the reverse of this little card will be printed these words, "Visitors will return this card to the office desk. No other visitors can see your friend until this is done." This process seems

complex in the telling, but it is indeed very simple and by it visitors can be handled perfectly.

Charges Between Departments

To the Editor of THE MODERN HOSPITAL:

I have charge of the kitchen and dining rooms, planning and preparation of meals, patients' clothing, laundry, sewing room, mattress makers' and tailors' shops.

We have at the present time some 600 patients. We employ quite a good deal of patient labor in all of the departments. At the present time I am working on a new system of bookkeeping for the workshops—namely, seamstress', tailors, and mattress makers' departments.

As it is now, in our seamstress department we charge seamstress with goods requisitioned from store, and then put a price on finished article before it is requisitioned out for use on the wards. For example, she uses six yards of lace for one pair of curtains at 40 cents a yard, and for curtains made up she is allowed $3.15 per pair. This system makes the seamstress department pay, but it makes the maintenance charges for the wards very high.

I would be pleased if you could suggest to me any system so that our maintenance charges will not be so high.

A STATE HOSPITAL.

From your letter we cannot see where you are to improve on your method of charging your goods sent to the various occupational departments; indeed, it seems clear that there can be only one way of handling these accounts, and that is to have each department charged the actual cost if goods are to be used in the institution itself, as, for instance, the curtains for the wards; and if the goods are to be sold outside, there should be added by each department a reasonable profit.

In the case that you mention in your letter, where the curtains were requisitioned by the seamstress department, then made up and sent to the wards, the wards should certainly be charged with the actual cost, because, if they had not been able to get them from you, they would have had to go outside and get them. If you charged them more than they could buy them for elsewhere, then there must be some fault in your department, because you are working with free labor and ought certainly to be able to compete with mercantile houses, which have to pay for making these things. The wards themselves have no way of making money, and undoubtedly appropriations are drawn on to pay the expense of maintenance of patients. If the hospital cannot furnish things in competition with commercial houses, then you should have some other basis on which to compute the value of your work. We can easily see that the profit might be charged against the welfare of patients, in which case the appropriations would have to be called on to pay the deficit, and in that case the work would be curative and the charge would go against the treatment of patients.

The public—that is, the officials of the province—ought not to expect that your occupation bureau will be self-sustaining. We have got by that a long time ago, and the modern idea is to give occupation to patients in insane hospitals because it will do them good and not because it is profitable, and only in rare cases can such a department pay. For instance, in the Colony for the Chronic Incurable Insane at Gardner, Mass., the patients make mattresses for all other state institutions, and that department is profitable because the colony raises its own sheep, weaves its own cloth, and makes ticking out of that cloth. In some cases the colony goes to New York and buys cotton ticking, and is allowed a reasonable profit from the other institutions, and is allowed also a reasonable profit for the work of making up the mattresses. They raise their own geese, and make pillows and bolsters out of the feathers, and they make a profit both on the feathers and on the ticking, and on the work of making them up. The colony also buys good lumber and makes furniture for other institutions, and makes a profit out of that.

In some institutions the farm is profitable in the same way—raises potatoes and other vegetables for other institutions, furnishes milk and cream and butter from its dairy, and all these things have a profit attached to them, but the whole system is carried in the books in practically the same way that you are doing it.

There is one more case that we would like to cite—viz., the Clifton Springs Sanatorium at Clifton Springs, New York. There is a 300-acre farm, with a good dairy and a fine herd of hogs, and a poultry colony, and the books are kept entirely separate for the farm and for the sanatorium. Things raised on the farm and furnished to the sanatorium are charged against the sanatorium at exactly the price that the sanatorium would have to pay for them if they bought them outside.

We do not think your bookkeeping system is wrong just because one department shows a profit and another shows a high cost of maintenance; that fact alone makes the bookkeeping system perfectly clear and shows the exact status of the case, and it will give those in authority a clear insight into what they are doing.

The surgical operating rooms of the hospital, for instance, are never profitable, but are always a burden to the institution, but patients come to the hospital because they can get their surgical operations done there; therefore the surgical operating rooms are the attraction and are a necessary source of expense, the profit going to other departments, and it is understood that this is to be so, and no fault is found with that situation. The same thing is true in your institution.

Hospital Costs

To the Editor of THE MODERN HOSPITAL:

Being subscribers to your excellent magazine, THE MODERN HOSPITAL, we are taking the liberty to ask if you can give us certain information which a hospital board for which we are working is desirous of having, and relating to costs of maintenance and building per bed. We thought that possibly information you may have gathered and have at hand would enable you to give fairly accurate data on this subject, or, if such is not available, could you furnish us with a list of any articles which may have appeared in your magazine relating to this subject.

The proposition under consideration, as to type of buildings, would be based on fireproof construction of the first class, such as is required by the building laws of the largest cities in the East, and, of course, proper allowance would have to be made for increase in building costs between the time such information was gathered and now.

The hospital under consideration would be a teaching hospital, also, in addition to being a general hospital in its hospital work, which would tend to increase the cost per bed. Such information as you can give us, we know, can be only relatively correct to any specific case, as materials used, elaborateness of equipment, etc., could affect same materially. Any information, however, you can furnish or suggest will be greatly appreciated. The general information desired is as follows:

1. Average cost for buildings per bed for 200-bed hospital.
2. Average cost for buildings per bed for 1,000-bed hospital.
3. Average cost for buildings per bed for nurses' home for 250 to 400 nurses.
4. Average cost of maintenance of a hospital per bed in a 200-bed hospital.
5. Average cost of maintenance of a hospital per bed in a 1,000-bed hospital.
6. Average cost of maintenance of a nurses' home per bed for 250 to 400 nurses.

T. M. H.

We will try to reply to your letter in the order in which

you ask your questions, and then will attempt to dilate on these prices in conclusion.

1. Average cost for buildings per bed for 200-bed hospitals—about 30 cents per cubic foot.

2. Average cost for buildings per bed for 1,000-bed hospital—approximately the same amount.

3. Average cost for buildings per bed for nurses' home for 250 to 400 nurses—approximately $1,000 per bed.

4. Maintenance of hospital per bed in a 200-bed hospital—about $2.50 per day per bed.

5. Maintenance in the 1,000-bed hospital—approximately the same.

6. Maintenance of nurses' home for 250 to 400 nurses—approximately $15 per bed per month.

As you suggest in your letter, these costs must be relative rather than arbitrary, and they will be contingent on many conditions. In the first place, it makes a great deal of difference whether the 200-bed hospital is to be complete or whether it is to be added to in the form of other wings or other pavilions, because in a completed hospital all of the administrative space—that is, offices, assembly rooms, dining rooms, reception rooms, x-ray and drug rooms, etc.—will be included as for that size hospital; whereas if this is to be a part of an eventually larger hospital, the administration space will have to be built complete for the ultimate use, and will have to be proportionately very much larger than if the hospital were to be completed at 200 beds. Administration space does not cost quite so much as patient space, because the plumbing is not so great in quantity, the lighting scheme is not so elaborate, and there are a good many other particulars in which administrative space may be made to cost a good deal less than patient space. This is the reason why we have given you the cost of the building as per cubic foot instead of per bed, because the per bed basis means very little unless it contains a proviso as to the administrative space. The cost of a 200-bed hospital does not differ widely from the cost of a 1,000-bed hospital, because the moment you get into large figures you have got to plan for some extraordinary services for patients, and the administrative space in a 1,000-bed hospital runs pretty high.

Hospital costs can be made to run all the way from 22 cents up to about 40 cents. We have known hospitals, under special conditions, to cost lower than these figures and higher, but you can pretty definitely count on about 30 cents.

We have no figures available on the per cubic foot cost of nurses' homes, but, if you were to estimate at $1,000 per bed, you could build the home quite easily. There is not much administrative space in a nurses' home, and one elevator of the push-button type would be sufficient for even a large home. Generally, the nurses dine in other buildings, so that dining rooms and service rooms are not necessary. The flooring question in a nurses' home is far simpler than in a hospital, and you can use wood or battleship linoleum throughout. Now, of course, all material costs have gone up almost out of reach; for instance, in the case of a recent hospital equipment the linoleum cost laid, and laid by competent experts, $1.35 per square yard; now we understand that the linoleum in the piece costs about $1.85. Everything else has gone up in proportion.

The question of the cost of maintenance in the hospital depends very much on the character of the hospital. We know county hospitals that are costing for maintenance only $1.25 a day, but the service is unpardonably low grade according to our standards and according to the demands of modern medical science. And in planning for even a municipal hospital that has to care only for dependents, there ought to be provision for a competent laboratory of pathology, good x-ray rooms, a proper dietary, and adequate nursing. The time has gone by when we can put a nurse to take care of ten acutely sick people, and we think of our intern service as one intern to twenty or twenty-five patients, and we think always in terms of special feeding of even dependents, because we have come to regard scientific feeding as of more importance than drugs. X-ray pictures, meaning plates, cost money, and competent direction in a laboratory of pathology costs money, and, if there is to be adequate service to the medical staff in the laboratory, a good many people are required for the work, under a high-salaried head.

The Presbyterian Hospital, of New York, has a per-capita cost for its free patients of $3 per day. Most hospitals of that same class expend about $2.50 to $2.75 for free patients. The Presbyterian Hospital spends for its private room patients approximately $7 per day—not in feeding, but in service.

When we give you the figure $2.50 as the average cost of maintenance, we are taking the municipal hospitals into account and the small country hospitals, in neither of which class is there a great deal of money spent for service. If you are going to build a high-class institution for the care of both pay and free patients, and it is the intention to maintain it so that its supporters and trustees will not be ashamed of it, you had better figure $2.50 per day as cost of maintenance.

We think nurses can be maintained in connection with a home for approximately $12 per month, so far as their board is concerned; but we would add about $3 for other administrative expenses, such as maids, a matron, and the necessary people to keep up repairs.

We have not given you very many citations from the literature, but we are giving you an epitome of what the literature says. Very many examples could be cited to back up these relative figures.

Architects C. W. Bulger & Son, of Dallas, Texas, are drawing plans for a nurses' training school and dormitory to be erected by the Texas Baptist Memorial Sanatorium of that city. The building will be a five-story and basement fireproof structure, 110 by 92 feet, costing $150,000 and containing accommodations for 200 nurses. It is the first step in a movement inaugurated by the Baptists of the state toward the development in Dallas of a great medical center through the enlargement and improvement of Baylor University Medical College and the sanatorium. Colonel C. C. Slaughter, of Dallas, has promised to donate $200,000 to the correlated institutions, conditioned on $300,000 being raised from other sources, and efforts are now being made to meet the terms of the offer. When the money is assured, the next step will probably be the construction of an additional story to the main hospital building, to be devoted entirely to operating suites. Later the authorities hope to build an addition specially adapted to the care of children patients. The present group of institutions, comprising the sanatorium, the medical college, the college of pharmacy, and the school for the training of nurses, represents a development of the last seven years. Last year 8,000 patients were admitted to the sanatorium in addition to 11,000 treated at the free daily clinic.

Dr. Frederic C. Kidner, attending orthopedic surgeon at the Children's Free Hospital, Detroit, Mich., has raised a fund to send a nurse from that institution to Boston for special training in the care of infantile paralysis cases, and Miss Mabel Wagner, a graduate of the Children's Free Hospital, has been selected for the work. She will attend classes especially arranged by Dr. Lovett at the Boston Children's Hospital Dispensary.

LETTERS TO THE EDITOR

The Hospital Library Again

I was much interested in reading the article in the November issue of THE MODERN HOSPITAL entitled, "A Hospital Circulating Library." We librarians thoroughly agree with the author that an institution library, especially, should be administered as simply and with as little "red tape" as possible, but why the layman should always consider the American Library Association and "red tape" as synonymous is a great puzzle to us, since what we are working for is simplicity, efficiency, and the absence of any colored "tape."

The author's remarks about the value of the "Nick Carter" type of books for relaxation reading reminds me of a story over which the American Library Association has long chuckled. In one of our big universities was a college professor who certainly looked more like a mild and elderly tramp than the great authority he was on a certain very learned subject. While this professor was writing his books he was lost to the world, but when the book was finished he emerged from his seclusion and went on a regular orgy of dime novels to rest his mind. He had stackroom privileges at the city library, and the older librarians there knew him and his habits, but one day there was a very young and very new librarian at the charging desk, who took life and literature very seriously. To her came this meek, elderly person, with an armful of his favorite "rest" books. She looked aghast at them and then at him, and then said brightly, "O my good man! These books you have are perfectly worthless trash! I haven't time to pick out some good ones for you now; but, if you will come in tomorrow morning, I will have some ready for you which will be much better."

The author's scheme is certainly simple, but, from my twenty-three years of library experience, thirteen of which have been passed in a hospital, may I make one or two suggestions which will simplify it still more?

For one thing, don't bother with sticking any paper or cloth labels on the backs of your books; they won't stick, they will get soiled, and they are a useless expense. Write the call number directly on the book itself with Higgins' waterproof india ink; this will do for all except the very darkest covers, and for these there are several brands of white ink, none of which I have found satisfactory, but you will find very few on which the black ink will not show. I would also suggest that, instead of covering the books with paper covers, they be shellacked with some colorless shellac; they can then be wiped with a damp cloth if they get soiled, and the patients can enjoy the bright and pretty covers.

Next, instead of having to write the date, number of the book, and the patient's name in a memorandum book each time the book is taken out, it is a great labor-saving device to have a book pocket pasted in the back of each book, ruled for dates, and a book card with number, title, and author typed or written on it, which is kept in the pocket when the book is on the shelf. When the book is taken out, all you have to do is to write the patient's name or the number of the ward on the card and file it behind a date slip, dating the pocket. In this way, besides saving much time in writing, you have a complete record on the book card of the persons who have had this book. To the librarian or nurse selecting books for patients, this record is invaluable.

Again, why not use the regular American Library Association accession book, already lined for just the entries Mr. Clark suggests? And for a shelf list, although I prefer cards, a loose-leaf binder is next best, and this can be typed or mimeographed for the wards, doing double duty as shelf list and finding list. If you attempt to accession your books under several different headings, you will get into trouble with your numbers.

As to classification, why not use the Dewey to begin with, instead of dumping all your nonfiction into one class? If you intend to limit your library to a couple of hundred books or so, with only about a dozen books which are nonfiction, M is as good as any other letter or number under which to put them; but, when your library has grown to the hundreds, perhaps thousands, they will all have to be reclassified to get any sort of order among them. But is it any more work to mark Longfellow's poems 81 L, or Tennyson's 82 T, or Chapman's bird books 59 C, or Franck's "Vagabond Journey Round the World" 91 F, than to mark them all M 13, 46, or 135? Moreover, fiction doesn't need any classification number; it should be arranged on the shelves according to alphabet by authors. To get this alphabetical arrangement, you can use the Cutter author table or the author's name, with the first word of the title to designate the book. Thus Miss Alcott's "Rose in Bloom" would be numbered "A355 r," or else "Alcott r;" Rex Beach's "Going Some" would be "B351 g," or simply "Beach g." In this way you do not need to look up the number of a book in order to find it. Juveniles usually have a small "j" prefixed to the call number. Now, using the Dewey system is not "red tape"—it is simply forethought, planning ahead for the larger library, and taking advantage of something already worked out instead of trying to work out your own scheme. The Dewey system is by no means perfect, but there is no doubt that it is the best there is for the small library and the inexperienced librarian.

That there is almost never an experienced or trained librarian in charge of institution libraries is a fact well known to those of us who have been trying for the last ten years to get better library conditions into the hospitals and other institutions. We have argued and plead for training here because we know its value, but, pending the awakening of institutions to this need, we have endeavored to put our experience at the disposal of these same untrained librarians. Knowing the needs of the institution libraries as we do from direct personal contact, knowing just the rocks on which these untrained librarians come to grief, the American Library Association committee on institution libraries has prepared a very practical manual giving simple rules for selecting and buying books, cataloging, classifying, charging, mending, etc. This manual is now in press, and may be had as soon as published by writing to the American Library Association Publishing Board, 78 East Washington street, Chicago. The price will be as low as it can be made. A great deal of thought and care has been put into this manual, and the committee only hopes it will be of use to the inexperienced hospital librarian.

EDITH KATHLEEN JONES,
McLean Hospital, Waverly, Mass.

Two Baltimore hospitals, the Maryland General and the Union Protestant Infirmary, will launch campaigns shortly after the first of the year for funds aggregating nearly $500,000. The Union Protestant Infirmary will seek at least $250,000 for the erection of new quarters, while the Maryland General Hospital hopes to secure $200,000 to liquidate its bonded and floating indebtedness and make certain improvements.

INDUSTRIAL WELFARE

FROM KINDERGARTEN TO LIBRARY

* * *

Welfare Work of the Homestake Mining Company, Lead, S. D.

BY F. E. CLOUGH, M. D.

The average individual has the idea that South Dakota is strictly an agricultural and stock raising country, few realizing that in the southwest portion of the state are situated the Black Hills, the highest range of mountains in the United States east of the Rockies.

These hills are highly mineralized, containing practically every known element to a greater or less degree. In the northern part of the Black Hills is located Lead (pronounced Leed), a city of 8,500 inhabitants, the home of the Homestake Mining Company, the largest gold mining concern in the world. The company has been running continuously since 1877, and has taken from the ground approximately $150,000,000 of gold. In order to produce an annual output of $6,000,000 about 2,500 men are steadily employed.

Since its inception the management of this company, and especially its principal stockholder, Mrs. Phoebe A. Hearst, of California, has been vitally interested in any movement that would inprove the general condition of the workman and his family.

HEARST FREE LIBRARY

Probably the first important welfare movement was the inauguration in 1895 of a free library and reading room. Starting out in a small way, when the town was a typical mining camp, it has grown with the city, and is now one of the most popular institutions. A summary of its work for the past twelve months is given:

Total number of volumes in library	10,500
Total number of periodicals on file	82
Total number of foreign periodicals on file	4
Total number of newspapers on file	21
Total number of foreign newspapers on file	5
Total attendance for year	110,501
Minimum daily attendance (June)	276
Maximum daily attendance (January)	381
Total circulation of books for the year (adult books 25,203; juvenile books, 12,903)	38,106

In order to cater to all people living here, books are on file written in English, German, Scandinavian, French, Italian, Spanish, Slavonian, Lithuanian, and Finnish. A corps of one trained librarian and two assistants carry on the work of the library.

HEARST FREE KINDERGARTEN

Through the beneficence of Mrs. Hearst, a kindergarten was fully equipped and opened in 1900, and has been running continuously since that date. Sessions are held from April 1 until Christmas, but none during the cold winter months. Children between the ages of 4 and 6 are admitted, the older ones coming in the morning, the younger ones for an afternoon session. A corps of five kindergarten teachers take care of an average daily crowd of 150 youngsters. This kindergarten has proved one of the chief Americanizing institutions in the city.

RECREATION BUILDING

In 1914 the Homestake Mining Company presented, for the free use of all the people, a recreation building costing $250,000. This is a large three-story brick and stone structure, containing rest rooms, billiard rooms for adults and children, gymnasium, bowling alleys, plunge and

Fig. 1. Homestake Mining Company's welfare work. Recreation building.

shower baths, library, and theater. No charges are made for the use of any part of the building, except for the theater proper, where a 10-cent picture show or a road show is presented daily except Sunday.

The plunge is a white tile tank, 25 by 75 feet in size, with water ranging in depth from 4 to 9 feet. This water is heated to 80° F., and is filtered, disinfected, and changed frequently. As far as can be determined, no contagion has occurred from using the plunge. This tank is patronized by approximately 2,000 persons a month, about equally

Fig. 2. Homestake Mining Company's welfare work. Miners going to work.

divided between men women, boys, and girls. Transients are furnished suits and towels, and the plunge is a great play place for theatrical troupes and other organizations reaching this city.

The bowling alleys are six in number, equipped with Bachus automatic pin setters, while the alleys are kept as finely polished as is possible. Tournaments are carried on throughout the winter. About 3,000 persons use these alleys every month, rolling 7,000 games during that period. The billiard rooms are equipped with seven tables, four for adults and three for children, and are used by nearly

5,000 persons every month. The theater proper is very metropolitan in appearance, and is the most popular part of the institution, nearly 20,000 persons attending each month. In the main rest room of the building are card tables, chess tables, and plenty of room for lounging purposes. It has been reported by people who know, that this is the finest building of its kind erected by any industrial concern in the United States.

HOSPITAL

For many years the employees supported a hospital, each man contributing $1.10 a month. For the past six years, however, the company has maintained this institution at its own expense at an annual outlay of nearly $50,000. A staff of seven doctors and seven graduate nurses is constantly in attendance. Free medical, surgical, and obstetric hospital service and medicines are granted to every employee and his family or those dependent on him for support, so that, no matter what exigency might arise, no employee has to pay any doctor or hospital bill. A well-equipped 20-bed hospital is now in use, which will be supplanted next year by a thoroughly modern building. Only experienced doctors are engaged, and they are paid salaries sufficient to keep them for a number of years. Every doctor is compelled to do one month's post-graduate work each year. A visiting nurse is kept on the staff, but, as there are no poor people in the city, her work is mainly assisting the doctor in home calls. Some idea of the popularity as well as the extent of the hospital service may be gained from the summary of the report for the year 1915.

Fig. 3. Homestake Mining Company's welfare work. Kindergarten Fourth of July party. Eighteen different nationalities represented.

Number of persons in office	53,000
Professional calls to homes	21,407
Confinements	226
Surgical cases, accidents, operations	1,400

In addition to these activities, the company contributes $1,000 a month to a mutual benefit insurance company, and also gives for a Christmas present a 7-percent bonus of every man's yearly wage. To every church in the district $200 is contributed annually, about thirteen receiving this benefit.

Much interest is manifested in teaching "first aid" to the injured, the Homestake First Aid team being now the champion mining team of the country. This honor was won a year ago at a nationwide contest held under the direction of the United States Bureau of Mines at San Francisco. In connection with "safety first," a full-time safety engineer is employed, and, while no definite organization has yet been perfected, much attention is paid to prevention of accident, so that this company has as few accidents as, or perhaps fewer than, other first-class mining companies. For the most part the employees are American or English-speaking foreigners, it being compulsory for all foreigners to become naturalized as soon as the law permits.

That these welfare measures have paid is evidenced by the fact that there is no better class of laboring man anywhere than here, nor can few cities boast of as great a percent of homes owned by workers as here.

INTEREST OF EMPLOYEES CONSTANTLY HELD

* * *

Welfare Work of Cincinnati & Suburban Telephone Company Includes Country Home Where Girls Go to Rest

BY R. T. McCOMAS, Vice-President and Assistant General Manager.

In these days of ever-increasing activity in the business and social world, there is, perhaps, no factor more important in the home and office, no adjunct more indispensable to modern living, than the telephone. And inseparably connected with the telephone is the telephone operator, that "weaver of speech" on whose ability so much depends.

"Efficiency" is the cry of the hour, and it is safe to say that in no field of endeavor into which women have entered is efficiency more essential than in the operating room of a telephone exchange; for efficiency here spells first-class telephone service, and we all know (perhaps to our sorrow) that, unless such service is first-class, it is useless—nay, more, it is positively harmful.

Cincinnati justly boasts of its splendid telephone service, due to the high standard of efficiency maintained among its employees by the Cincinnati & Suburban Bell Telephone Company. Realizing how very much good work is dependent on good health, and that a sound mind in a sound body is an invaluable asset to the girl at the switchboard in particular, the company is ever on the alert to adopt measures that will tend to the mental and physical betterment of its operators. In line with this policy, it introduced in March, 1911, a new working schedule, whereby an operator reports for duty from 7 a. m. to 2 p. m. one day, and from 2 p. m. to 9 p. m. the next, thereby working but seven hours per day, in addition to which a daily relief of twenty minutes is allowed. This alternating schedule is in high favor with the girls, as it allows so much free time each day for personal demands. Furthermore, each operator is allowed two weeks' vacation with pay—one week in winter and one week in summer.

In all the large exchanges of the company, bright, cozily furnished rest rooms invite relaxation and repose when the operators are off duty. Beautiful pictures and rugs, luxurious couches, easy chairs and rockers, library tables strewn with the latest magazines and the daily newspapers—in fact, everything conducive to rest and comfort—is here provided.

An elegantly appointed dining room, with up-to-date kitchen, is part and parcel of every exchange. Here, amid refined and homelike surroundings, a substantial meal is furnished to the operators at less than half the actual cost. The food is wholesome and appetizingly served, and the menu is changed daily. The following is a sample taken at random:

Vegetable Soup

Roast Beef Mashed Potatoes

Sliced Tomatoes

Bread and Butter Tea or Coffee

For this the operator pays 4⅘ cents.

A large commissary department, with refrigerating plant, is maintained in the new main exchange building, where great quantities of food are kept, and from this base of supplies all the city and suburban exchanges are furnished daily with their requirements, the food being delivered by an autotruck, kept especially for this purpose. All exchanges serve the same menu.

Should an operator be taken suddenly ill, she is cared for in the hospital room (situated in close proximity to the operating room), which is equipped with a couch, reclining chair, and plentiful supply of blankets and pillows, and a medicine cabinet containing all the necessities for rendering "first aid." If a case proves serious, the company's resident physician, a man eminent in his profession, is summoned. His office is maintained in the main exchange building, where he may be consulted at all times, without charge, by the employees.

A very important feature of the company's welfare work is the employees' pension, disability benefits, and insurance plan, which is briefly as follows:

In case of sickness, those employees in the service ten years or more receive thirteen weeks' full pay and thirty-nine weeks' half pay; those five years or more in the service receive thirteen weeks' full pay and thirteen weeks' half pay, while those but one year in the service receive four weeks' full pay and nine weeks' half pay. In case of death, the employee's insurance, regulated according to the length of service, is paid to the dependent beneficiary. In order to receive the benefits of this plan, an employee must be in the service one year. Both sexes are eligible. For all this the employee is not assessed one cent. The benefits are paid from a fund contributed by the company.

Retirement on pension is provided as follows: (a) for employees whose term of employment has been twenty years or more and who have reached the age of 60 (females, 55); (b) for employees whose term of employment has been twenty-five years or more and who have reached the age of 55 (females, 50); (c) for employees whose term of employment has been thirty years or more; and the amount in each case is 1 percent of the average

Fig. 1. Cincinnati & Suburban Bell Telephone Company. Hazelhurst, the country home of the operators.

Fig. 2. Cincinnati & Suburban Bell Telephone Company. View of living room.

Fig. 3. Cincinnati & Suburban Bell Telephone Company. One of forty-six bed rooms.

annual pay during ten years for each year of service. The minimum pension is $20 per month.

Of the many social features recently introduced, the most popular is the monthly dance, to which all operators and their friends are invited. On the beautiful new roof garden of the main exchange, far above the glare and din of the city street, amidst flower-entwined pergolas, the merry dancers trip the light fantastic until 11 p. m. The music, the flowers, the soft electric lights, and the pretty,

Fig. 4. Cincinnati & Suburban Bell Telephone Company. Commissary department in the main exchange.

shimmering costumes of the girls all give to this novel ball room the appearance of fairyland. In inclement weather the dances take place in the large auditorium of the building.

Not content with all these measures for the comfort and happiness of the employees, the company about two years ago purchased a beautiful residence at Mt. Healthy, a suburb of Cincinnati, and, after expending thousands of dollars in remodeling and equipping it, presented it to its

Fig. 5. Cincinnati & Suburban Bell Telephone Company. Dining room in the main exchange.

girl employees for a vacation home. "Hazelhurst," as it is called, is situated on a plot of rolling ground in the midst of magnificent old oaks, and is approached by a long, winding walk. It is an ideal country home, with all the conveniences of an up-to-date city hotel. The woodwork throughout is white enamel, and the walls are done in soft grays. There are forty-six bed rooms, each containing a white enamel bed, rocker, and dressing table, with white marble washstand in an adjoining alcove. Art rugs of delicate hue cover the polished floors, and white, filmy curtains drape the windows. Each room opens out on a screened sleeping porch. The dining room is furnished in are those of a first-class home. Lavender and gray tones Flemish oak, with inset buffet, and the table appointments predominate in paper and draperies.

"Hazelhurst" is famous for its cuisine. The best the market affords, prepared by culinary artists, is served in an abundance to appease the keenest appetite. The most attractive spot in this beautiful home is the large living room. Persian rugs strew the polished floor, and soft upholstered chairs, bookcases filled with the latest and best fiction, magazines, and papers, make this a pleasant place to while away a leisure hour. Its chief charm, however, is the great, wide stone fireplace, where, in winter, the crackling logs send forth their cheer and warmth on the merry groups gathered about it, for "Hazelhurst's" hospitable doors are open to welcome guests in winter as well as summer.

Adjacent to the main building on the north is the dance hall, whose mirrorlike floor is a delight to the girl who loves to dance. A splendid player piano and victrola furnish the requisite music, and dancing is a favorite pastime.

Everything that will amuse and interest a care-free girl is found at "Hazelhurst." The home is presided over by a woman of great charm and refinement, who dispenses a generous hospitality to the girls who are her guests, and whose personal interest in their welfare has made her their idol. A homelike atmosphere pervades the place; there are no obnoxious rules and regulations and no undue restraint to mar the perfect enjoyment of the guests; and there are no bills to be paid when vacation days are over, for everything is free to the operators here—free as the air they breathe.

Is it any wonder that among the girl employees "Hazelhurst" is a word to conjure with, and that they eagerly look forward to a stay in such an ideal spot?

It may be asked, does all this pay? Well, this company finds it does; for there are no employees more conscientious in their work, more appreciative of their blessings, or more loyal to their company, than those of the Cincinnati & Suburban Bell Telephone Company.

A new hospital at Middletown, Ohio, erected by the Middletown Hospital Association at a cost of nearly $50,000, will be opened for patients some time in January. Miss Ruth Gardner Clark, a graduate of the Presbyterian Hospital, of New York city, and formerly superintendent of the Hudson City Hospital, Hudson City, N. Y., has been engaged to equip and organize the new institution, which has a capacity of 30 beds.

Miss Susan C. Francis, superintendent of the Jewish Hospital, Philadelphia, was reelected president of the Graduate Nurses' Association of Pennsylvania at the annual convention of the association recently held in Pittsburg. Miss Williamina Duncan, of Pittsburg, was reelected secretary and treasurer.

Construction work on a new home for the Northern Pacific Hospital at Missoula, Mont., is well advanced. The contract, however, does not call for the completion of the building before July 1, 1917.

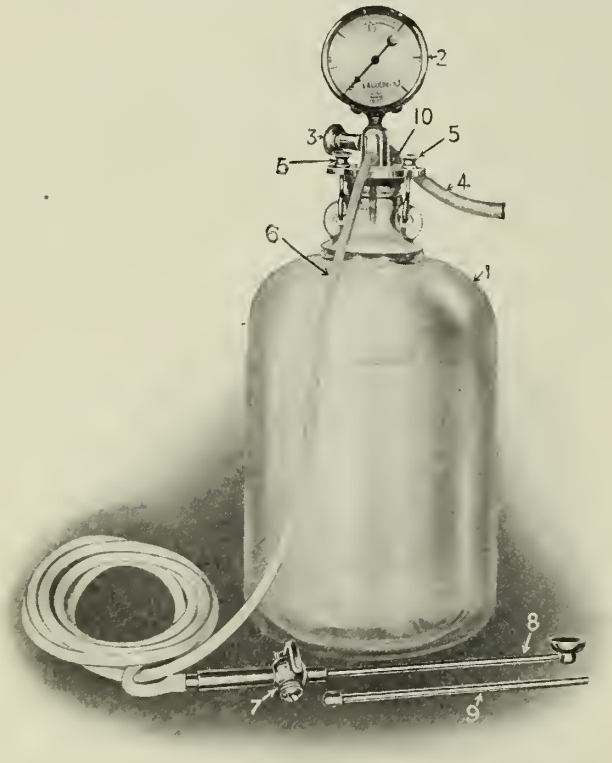
A new $3,500 motor ambulance was a Christmas gift to the Uniontown (Pa.) Hospital from friends of that institution.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

New Vacuum Bottle

Suction apparatus for the purpose of removing blood during operations in the abdominal cavities, for nose and throat work, removing pus from the sinus and abscess cavities, etc., have become quite popular with the surgeons who follow the different specialties. A new vacuum bottle has recently been devised by Dr. John Robertson, Cincinnati, Ohio, which has some special features not possessed by other apparatus of this type. The bottle has a capacity of one gallon, and consequently is of ample size for all purposes. It is of large circumference, so



Robertson vacuum bottle.

that it cannot be easily upset. The bottle is supplied with a solid metal head, supporting a vacuum gauge, with a valve for regulating the suction force. The head is secured to the bottle by convenient screw clamps, with a rubber gasket between, so as to make an air-tight connection. The intake tube is provided with a cutoff, to which different instruments may be attached. Two of the most serviceable of these instruments are shown in the illustration; one of these is intended for removing blood and mucus from the throat and the other for tonsils. The force of the vacuum may be regulated from zero up to 26 inches mercury when used with one of the Robertson pumps, and, when used with other pumps, up to the capacity of the pump. The principal advantage over other vacuum bottles claimed by the inventor is that the exact amount of suction is always known by observing the gauge.

Protective Shield for Retaining Dressings After Mastoid Operations

One of the most disagreeable things to a patient who has undergone a mastoid operation is the wearing for days and weeks of heavy dressing held in place by a bandage which must encircle the head.

In order to do away with this, Dr. J. A. Stucky designed the device shown in Fig. 1. The shield is made of ordi-

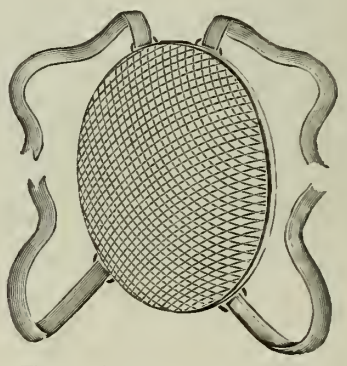


Fig. 1. Stucky protective shield.

nary fine copper wire netting, such as is usually used for screens. This material is cut into proper size, formed into saucer-shape by means of a mold, and bound with tape or flexible metal tubing (the latter binding is more substantial and durable), so that the shield can be adjusted to the shape of the head and neck. After removal of the dressing applied at time of operation, usually in

Fig. 2. Stucky protective shield applied.

twenty-four to thirty-six hours, a light dressing is applied over the incision and cotton placed in the bowl of the external ear; these are held in place by the sterile wire shield, which is bound to the head by four pieces of tape, as shown in Fig. 2.

The cotton and gauze can be seen through the wire shield, and when soaked with discharge from the wound can be promptly removed and fresh dressing applied. Not

only does all this add to the comfort and contentment of the patient, but also the wound is kept free from soiled dressing, and has the additional advantage derived from exposure to the air, which hastens the healing process.

New Binocular Magnifier

The binocular magnifier shown in the accompanying illustrations has been designed to enable medical men called on to examine small objects with a low magnification

New binocular magnifier with cloth headband.

to do so conveniently with both eyes simultaneously. Binocular vision in such an instrument has always been desired in order to gain perception of depth, but optical means heretofore available seem to have proved insufficient to provide it. Binocular vision, correctly applied, does more than improve the general definition—its great importance lies in the fact that it enables the observer to see the object well defined and in relief, giving practically a natural perspective.

With this low-power binocular magnifier the condition above outlined is fulfilled, since the objects are produced as planes in the image. With the older form of binocular magnifiers it seems that this very condition was lost sight of, and consequently the depth of definition and true per-

Binocular magnifier with fiber headband and electric illuminating appliance.

spective were impaired. To overcome the difficulty, the manufacturers have arranged two rhombohedric prisms in order to reduce the distance between the optical axes on the object side of the prisms, so that both fields of view appear within comparatively small convergent angles. The eyepiece caps are made of vulcanite, and so shaped that they fit snugly over the edges of the orbit, and the entire instrument may be kept in position by an adjustable elastic or special fiber headband, as desired.

In using a binocular magnifier for dissecting work, it has been found inconvenient when looking for the instruments required. To overcome this difficulty, an aperture has been provided in the lower part of each of the eyepieces, through which the observer may obtain natural vision. The eyepiece caps allow the insertion of correction glasses, essential for users with astigmatic eyes. The use of correcting glasses is also recommended when the user is myopic, for otherwise he will experience a considerable shortening of the working distance.

This binocular magnifier also may be conveniently used on an adjustable stand, consisting of a round metal base with vertical pillar. The horizontal arm carrying the instrument can be moved up or down or turned around its axis, as may be desired.

To facilitate observation of deep cavities, dark, uneven specimens, etc., an illuminating appliance may be fitted to the binocular magnifier, as shown.

This illuminating appliance consists of an electric metal filament lamp and condensing lens system, with which the binocular field may be brightly illuminated, a decided advantage.

Apparatus for Intravenous Salvarsan Injection

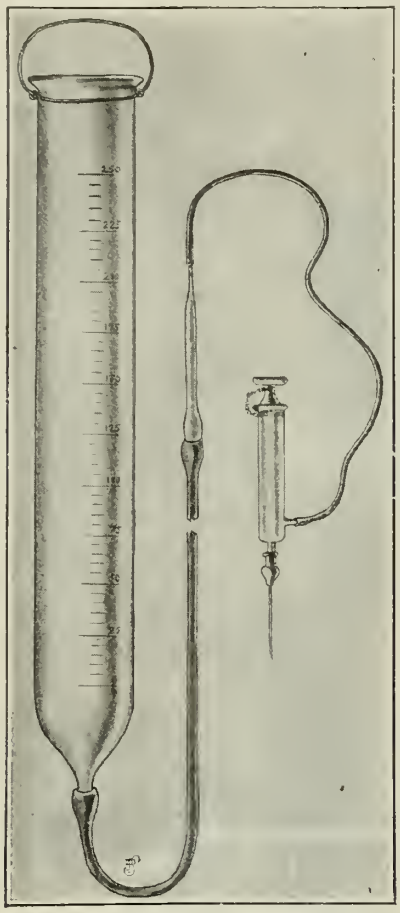
BY LOUIS RENE KAUFMAN, M. D., F. A. C. S., New York, N. Y.

Apparatus for the administration of Salvarsan by various methods are constantly being invented, but it is intended to illustrate and describe in these columns only those devised which are really practical and comparatively simple in construction and operation, and the outfit illustrated here seems to embody these requirements. The apparatus consists of a graduated glass container of 250 cc. capacity, all-glass Luer syringe 1½ cc. capacity, one needle glass connecting tube, and the necessary rubber tubing. The Luer syringe has at right angles connected to it a short glass spout ¼ inch from the neck of the syringe. A small-size rubber tube, 18 inches long, is connected to this spout, terminating at the other end in a glass tube, which joins the rubber tube leading to the glass Salvarsan cylinder. The cylinder is suspended, so that the whole apparatus is essentially a gravity flow. An ordinary slip-on large hypodermic needle is attached to the syringe, and its bore may be adapted to the vein, a needle ⅝ inch long being preferable.

The method of using is evident from the illustration. In beginning an injection, the Salvarsan cylinder is first filled with sterile distilled water. By pulling up the plunger of the syringe, the solution flows through and expels the air in the whole circuit, after which the flow is stopped by pressing the plunger home; for subsequent injections this need not be repeated. Then the plunger is pulled out gently, and blood fills the part of the syringe in front of the glass tube at the side of the syringe if the vein is properly entered. As soon as blood appears, filling the syringe, the plunger is pulled out further, and at once the Salvarsan enters by the side tube by gravity, driving the blood back into the vein, so that in a moment the

syringe becomes filled with Salvarsan solution. The injection may be stopped by forcing the plunger back, thus shutting off the side outlet. There is no danger of air entering a vein, for practical use shows that one always has a closed circuit.

The inventor claims that the following advantages are derived from this apparatus: 1, the operator has perfect

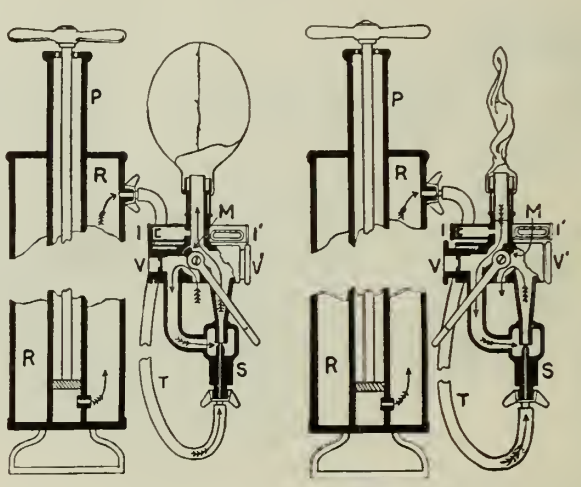


Kaufman Salvarsan apparatus assembled ready for use.

control of the flow of Salvarsan, which is plainly in sight; 2, there is no soiling whatsoever of the field by blood, usually infectious in Salvarsan cases, or by solution; 3, asepsis is assured, for the needle need not be handled after sterilization, as it is manipulated and controlled by the syringe; 4, avoidance of clot formation in the needle, for, as soon as the vein is penetrated, the Salvarsan flows in automatically.

Portable Pulmotor

A portable model of a pulmotor has been recently placed on the market, and, having several features which are new and go far toward rendering the apparatus safe even in inexperienced hands, it deserves careful consideration. Objections have often been made to the types of machines having measured volumes of air depending on the amount of pumping done. The results then depend largely on how fast the pump is operated. In this new pulmotor a valve is used, which not only applies, but controls, air pressures, producing inhalation or exhalation of the patient's lungs. The pressure control valve is operated by the person at the patient's head, and not by the assistant who works the pump. On each side of the pressure control valve is an indicating gauge showing exactly what pressures are being exerted on the lungs. The importance of this feature lies in the fact that patients of different ages and cases of different kinds should be given entirely different lung pressures. For example, pressures for an infant should naturally be far less than those for an adult. An alcoholic will require different pressures from a drowning case. By adjusting the valves for the case in hand, both volume and pressure are set. It is then for the operator to administer the air or oxygen, whichever is used, paying no further attention to the source of supply or pressure. The automatic valve has also been designed so that the instant the patient attempts to resume normal breathing, this fact is indicated. A



Working parts of type "B" pulmotor. P, pump; R, air receiver; T, high-pressure tube; S, injector; V, control valve for regulating amount of inhalation; I, indicator for measuring amount of exhalation; L, indicator for measuring amount of inhalation; M, valve for alternating inhalation and exhalation.

special apparatus has been designed that is particularly valuable for the operating room, and consists of an oxygen cylinder and reducing valve.

The two diagrams show the complete inhalation and exhalation action of type "B" pulmotor. For demonstrating purposes, a rubber bag is shown connected to illustrate the action of the lungs. In diagram "A" note the direction taken by pumped air, through the pressure control valve to the rubber bag. The lever is turned to the right, which closes all outlets that would draw off air from the lungs. In diagram "B" the lever is turned to the left, closing the direct valve passage to the lungs, and permitting the pump to draw off the air in the lungs.

Closely following the organization of the Association for the Prevention and Relief of Heart Disease, whose activities will be nation-wide, the Post-Graduate Hospital, New York city, has formed a special committee to aid the work of its cardiac department. The committee will cooperate with the visiting nurse and social service inaugurated by the hospital six months ago for patients in its heart clinic.

Killdeer, N. D., founded two years ago and now claiming a population of less than 700, is soon to have a modern community hospital. In fact, temporary quarters are now being erected for the institution by Drs. Oscar Smith and L. F. Fisher, who will care for patients until the first permanent building is ready, some time next summer. The building now in course of construction will then be converted into a home for nurses. For the establishment and operation of the institution the Killdeer and County Hospital Association has been organized and incorporated with an authorized capital stock of $50,000.

BOOK REVIEWS

Studies in Ethics for Nurses. By Charlotte A. Aikens. W. B. Saunders Company, Philadelphia, 1916. Pp. 320, cloth, $1.75 net.

In her "Ethics for Nurses," Miss Aikens has met a need that superintendents of nurses have been feeling for some time. Mrs. Robbs' "Nursing Ethics," which was written in 1907, has always been considered a classic in the education of nurses, but since that time there have been no noteworthy books along that line. Miss Aikens' book will be warmly welcomed. It is a practical combination of psychology, every-day philosophy, and the elements of religion, and, although primarily written for nurses, it could be read with advantage by other classes of students. As a text-book on character building it is developed along the simplest lines. Beginning with a discussion of personality and character, attention is directed to development through emphasis on the primary virtues and their relation to every-day life. Young women in training schools do not, as a rule, give much thought to the fact that their attitude of mind and habits of life exemplify or fail to exemplify principles, and the simple, yet convincing, way in which Miss Aikens' book calls attention to this relationship between principles and life will open up channels of thought and direct the efforts of the growing group of serious-minded ones among the number to perfectly definite methods of growth and character development. A chapter on the ethical aspects of hospital accidents, another on the cost of training, and another on developing a symmetrical life will give an idea of the subdivisions of the second section. Many illustrations and practical problems drawn from life emphasize the ideas that are being developed, and are an important feature of the book. The third section, dealing with problems after graduation, is especially valuable. Suggestions about money saving and investment, the need of constant study, and the discussion of practical difficulties that arise in the work of many graduate nurses will be of decided value to many thoughtless or perplexed readers. The book is made particularly helpful as a text-book by the addition to each chapter of pertinent questions and suggested topics for discussion.

JULIA C. STIMSON,
Barnes Hospital, Washington University, St. Louis.

Clinical Laboratory Technic for Nurses. By Anna L. Gibson, R. N. Whitcomb & Barrows, Boston, 1916. Pp. 185, $1.25.

Miss Gibson has brought together in her comprehensive volume the latest information concerning laboratory methods. In scope it illustrates strikingly the expansion and specialization in this distinct field of nursing education. The work touches on bacteriology, chemistry, hematology, histology, and parasitology. The author has culled the necessary material from each and presented it in a practical and systematic manner.

In twelve chapters the necessary technic is given to enable the laboratory worker to carry out the ordinary procedures without the burden of unnecessary details. Points that might be somewhat abstruse to the uninitiated are explained in a clear, concise manner. Chapter I deals mainly with laboratory equipment, the kind of glassware in general use, solutions and reagents employed, and a few rules for general guidance. Chapter II describes the use and care of the microscope. In Chapter III between thirty and forty tests are given for urine examinations, together with drawings of crystals, casts, and cellular elements found in abnormal conditions. Nephritic and diabetic diets used in the Boston City Hospital are appended. Chapters IV, V, and VI are devoted to the examination of feces, gastric contents, and sputum. Chapter VII is a valuable one, describing the changes taking place in the blood in disease and the methods of determination. Various phenomena, such as agglutination and the formation of antibodies, are described. Noguchi's modification of the Wassermann technic is included. Chapters VIII and IX describe various bacteriological procedures, such as the preparation of vaccines, staining methods, and cultivation of aerobic and anaerobic organisms. The remaining chapters are devoted to the preparation of culture media, the examination of body fluids, and the preparation of tissues. Nurses engaged in laboratory work will find the book of great value.

A Manual of Fire Prevention and Fire Protection for Hospitals. By Otto R. Eichel, M. D., director of sanitary supervisors, New York State Department of Health. John Wiley & Sons, Inc., New York, 1916. Pp. 69, cloth, $1.

Much has been written on fire prevention and fire protection in hospitals, but chiefly on isolated features. This manual gives a brief survey of the entire field so far as hospitals are concerned. The author points out that, since the hospital is virtually a large residence, fire risks in hospitals belong to the residence class. Contrary to general belief, fire risks are greater in buildings where people live than in those where they work or play. Fire prevention and the safeguarding of life, the author remarks, are more important in hospitals than fire protection and the preservation of property. Under "Common Hazards in Hospitals and Their Safeguarding" he takes up lighting, heating, exposure, and miscellaneous hazards; under "Fire Appliances and Safeguards" he discusses chemical and other hand extinguishers, and other appliances, such as fire doors and shutters, fire-retardant paints, fire escapes and ladders, fire alarm box and sprinkler systems. Other sections are devoted to "Miscellaneous Precautions," with regard to water supply, valves, hydrants, gravity and pressure tanks, and locked doors, and the "Hospital Fire Department." A short list of books and articles on fire prevention and fire protection is appended for the benefit of those who wish to become better acquainted with the subject.

The Source, Chemistry, and Use of Food Products. By E. H. S. Bailey, Ph. D. P. Blakiston's Son & Co., Philadelphia. $1.60.

This book, by the professor of chemistry at the University of Kansas, may well be used as a reference book for nurses. It was written as a text for students in high school, and therefore it does not go into detail too much, nor is it too deeply scientific for the use of the nurses.

While it does not treat of the dietetic value of food, it does contain a vast deal of reliable information about "Food Products." In order to obtain this knowledge,

nurses and physicians would previously have been compelled to read many books or search through much material. Professor Bailey has brought the principal facts together in such a way that we get not only the chief points of our common food products, but we learn also of the methods used in their production. In some instances these methods affect the dietetic value of a food very much. In connection with the methods of production of the several food materials, the byproducts are given and their use as food. While this is, perhaps, not of direct interest to the nurse, it is a valuable feature for the physician as well as for the dietitian.

The chapter on Food Constituents gives in a very clear, concise manner a classification of food principles which may be readily understood by the nurses. In the discussion of cereals and starch manufacture, there are many facts stated which should be better known in medical circles. The chapters on Fats and Oils, Nuts and Nut Products, and Oleomargarine and Cheese deserve special mention.

Physics and Chemistry for Nurses. By Bliss and Olive. J. B. Lippincott Company, Philadelphia. $1.50.

This is the third text book in chemistry for nurses that has entered the field within the last year and a half, only this time a small portion devoted to physics seems to entitle the book to a more pretentious claim—namely, "A Text Book of *Physics* and Chemistry for Nurses." The authors, A. R. Bliss and A. H. Olive, were formerly professor and assistant professor, respectively, in Birmingham Medical College and Graduate School of Medicine, University of Alabama. Both Dr. Bliss and Dr. Olive are reinforced with an enviable number of degrees following their names on the title page, which should be significant of their preparedness to cope with the subjects in hand.

The authors aim to present simply and concisely those phases of physics and chemistry ". . . which are of special interest and importance to the student and the graduate nurse," the ground covered being adapted to a year's course.

There is a total of 239 pages in the book, 202 pages of which are given to actual subject-matter. It is divided into five distinct parts; the first part is devoted to the presentation of some general physical phenomena; the second, third, and fourth parts deal respectively with inorganic, organic, and physiological chemistry; the last part has to do with the consideration of fermentation and ferments, disinfectants, deodorants, and antiseptics.

The choice of subjects as outlined is the rational one and a good one; whether the ground covered is of wisest selection is more questionable, as is the relative proportions assigned the respective subjects. For instance, it is surprising that so much space should be given to such topics as a recital of specific and general properties of matter, to acoustics, to an exhaustive table of elements, to the commercial preparation of different forms of alcoholic beverages, etc., when there is need for simple elaboration of so many really live subjects and more worth while to the student nurse. It is equally astonishing that ferments and fermentation, disinfectants and deodorants, important though they be, should receive more consideration than physiological chemistry and nutrition, which are so full of vital interest.

Certainly the aim of any text in chemistry should be to give some degree of academic independence and an ability to apply knowledge of chemical principles in related fields. The text under discussion dwells very little on fundamental principles, for, aside from brief introductions in each part, it is largely an encyclopedia of definitions and descriptions of specific terms; and any student, nurse or otherwise, who has, as a result of a course in chemistry, only such information has very little that is usable or worth the effort expended.

There are the usual number of errors, chiefly in the chapters dealing with the physiological chemistry. Lactose is classified as a vegetable enzyme; glucose is the only product mentioned in the inversion process with cane sugar; and trypsin is said to take proteins only as far as the peptone stage. These are some of the most glaring lapses; there are others of equal or less importance.

The criticisms are on the work as a text. As an encyclopedia of information, it is valuable and should find a usable place among the nurse's book of reference.

Surgical and Gynecological Nursing. By Drs. Parker and Breckenridge. J. B. Lippincott Company, Philadelphia.

We are told that one of the essential qualities of a profession is the acquisition of a body of theory. Slowly but surely in this regard nursing is seeking to develop from a vocational to a professional status, and, through the earnest and painstaking efforts of nurses and physicians, we are in a fair way to possess a creditable literature.

A notable addition has lately been made to the nurse's library in the recently published volume, "Surgical and Gynecological Nursing," by Drs. Parker and Breckinridge, of Washington, D. C. The J. B. Lippincott Company has given the book an attractive, serviceable binding and good, readable type, and the numerous illustrations add greatly to its value and interest.

The aim of the authors has been to ground the student nurse in the principles of general surgery and gynecology. An honest endeavor has evidently been made to confine the subject-matter to these branches of nursing, but, as every instructor of nurses learns sooner or later, the allied subjects impinge at every point and cannot altogether be ignored. If, then, as in the chapters which deal with elementary nursing procedures, the authors appear to have departed from their original intention, one can realize their reasons for so doing even while deprecating the inclusion of such material in a book of this kind.

The style of the book is admirable—simple, dignified, and lucid—and is in refreshing contrast to the slipshod English which mars so many nursing text-books.

A point worthy of special mention is the recognition by the authors of the fact that underlying principles must be fully understood if nursing procedures are to be intelligently performed. No attempt is made to teach by rule of thumb. The volume commences with an admirable synopsis of the essentials of bacteriology. Better still, it proceeds with an outline of surgical pathology which, while necessarily sketchy and incomplete, still is far superior to anything so far attempted in books of this type. The coloring of the plates showing tissue changes in inflammation would be of decided advantage in future editions.

As is natural in a book written by surgeons, considerable emphasis is laid on operating room technic, and many pages are devoted to the nomenclature of the various instruments, suture materials, and other operating room paraphernalia. The intention presumably is to assist the trembling junior through those trying crises which we all remember, when, having been requested to bring an aneurysm needle, we returned trembling with a periosteal elevator or some kindred atrocity.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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NEW BUILDING FOR THE HOSPITAL FOR DEFORMITIES AND JOINT DISEASES

New York Institution Preparing to Treat Wreckage From Epidemic of Infantile Paralysis —Work Already Has Attracted World-Wide Attention—Some Details of Plans of New Building

By MONTROSE CRAIGER, Superintendent, and MAX G. HEIDELBERG, Architect

THE HOSPITAL'S WORK—BY MONTROSE CRAIGER

ALMOST simultaneously with the announcement that the Health Department of New York city is face to face with the problem of the after-care of approximately 10,000 children who have been stricken with infantile paralysis the past few months, comes the information that a wealthy citizen of Pittsburgh proposes to place about $1,000,000 of his fortune at the disposal of the directors of the New York Hospital for Deformities and Joint Diseases to provide for the erection of a new and up-to-date building, and its partial endowment.

The tentative plans call for a structure twelve stories in height, with a frontage of 60 feet, to be put up on the site of the present hospital on Madison avenue and One Hundred and Twenty-third street. This is an admirable location overlooking Mt. Morris Park. The new building will contain 400 beds, exclusively for patients, as the nurses, attendants, and servants will have their quarters nearby in buildings belonging to the institution.

It is proposed in the new hospital to have wards especially for victims of infantile paralysis, of whom the authorities of the institution expect about 2,000 in the next two or three years. This estimate is based on the probable capacity of the place and the needs of the community. The cost of the new building, it is estimated, will be about $600,000.

Although poliomyelitis has proved to be one of the most baffling diseases which the physicians of this or any other country have been called on to deal with in epidemic form, it is known that certain forms of after-treatment often lessen the loss of muscular power and sometimes prevent the young patient from being crippled for life.

As examples of the kind of work that the Hospital for Deformities and Joint Diseases is called on to do in this connection, there may be cited the cases of boys and girls 9 or 10 years of age who have been paralyzed so badly that they are unable to sit up, and will require not only operative treatment in the way of tendon and bone transplantation, but muscle education as well. Where this is done, it will often be possible to transform the little sufferers into useful members of society.

Although not all of those who have been stricken with paralysis the past summer have begun their treatment in the orthopedic hospitals, most of the mothers are already bringing in their children. Thus an hour from the time a little girl had been discharged from one of the contagious hospitals, her mother brought her to the Hospital for Deformities and Joint Diseases for convalescent treatment. This child had a paralysis of certain muscles in the foot and leg, and, when this was observed, an aluminum splint was placed on the limb. A brace was also given the child. She will be brought weekly to the institution for electrical and massage treatment, as well as muscle training and corrective gymnastics. Where this is continued for many months, it is certain that great good will result to the patient.

The Hospital for Deformities and Joint Diseases employs a staff of over 100 trained masseurs, nurses, and physicians to give massage and

the Swedish movement, under expert direction, in the department for paralysis cases. The effect of this massage may be classified as mechanical, reflex, thermal, electrical.

1. The mechanical effects are by far the most important, but the others should not be overlooked or forgotten. They consist of the interchanging of cell contents under the influence of

Fig. 1. Hospital for Deformities and Joint Diseases. Present building at 41-43 East One Hundred and Twenty-third street.

alternate pressure and relaxation; a quickened movement of the blood in the capillaries, especially in the muscular tissues; increased activity in the movement of the areolar fluid; acceleration of the currents of both blood and lymph in their respective channels.

2. The reflex, or purely nervous, effects of massage are obtained by light stroking and percussion. The former produces results which can be explained only on the supposition that it acts as a stimulant to the reflex system of nerves, the force used not being sufficient to account for any change on the mechanical theory.

3. The thermal effects of massage and movements are almost too apparent to need scientific demonstration; everyone is familiar with the fact that both muscular contraction in the form of ordinary exercise and simple friction develop bodily heat in a striking degree.

4. The effect of electric massage results partly from the development of the surface friction, partly from the attrition of the muscular fibers and cells, and partly from the nerve stimulation and chemical action.

"We give to the muscles involved a sinusoidal current," said Dr. Henry W. Frauenthal, surgeon-in-chief of the hospital, "alternating with a combined galvanic and faradic current, that contracts seventy-two times a minute, synchronous with the heart beat, and I regard this as an aid in the effect. It is known that contraction of the muscle can be obtained by means of an electric current when none can be obtained by the will; hence this is a valuable means of retaining and developing the muscle fiber until it comes under the guidance of the mind.

"Although many differences of opinion prevail as to the application of the sponge electrodes, we are in the habit of applying them at the origin and insertion of the muscles or muscle groups involved, always laying stress on the importance of approximating the origin and insertion of the muscle as nearly as possible. For instance, in

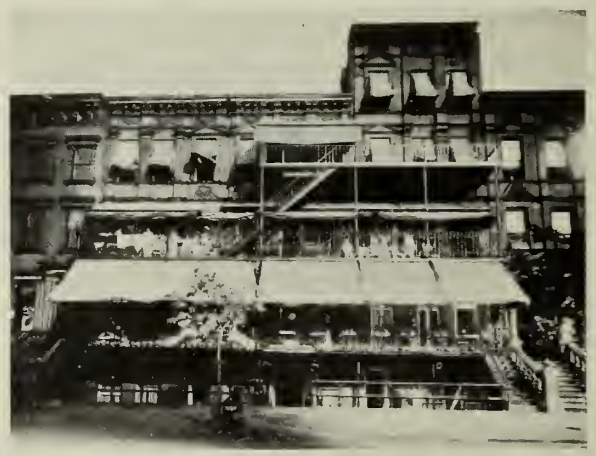

Fig. 2. Hospital for Deformities and Joint Diseases. Present building at 1915-1917-1919 Madison avenue.

treating the personal group, these muscles being most frequently involved, one sponge is placed over the middle third of the outer side of the fibula, the foot flexed as much above a right angle as possible, while the other sponge is applied over the insertion of these muscles on the outer side of the foot. In this way the bellies of the muscles are relaxed and a contraction is more easily made.

"Much foolish stress has been laid on the reaction of degeneration, and it can be proved, from a large practical experience, how deceptive this may be. It is said that a failure to obtain a muscle contraction by a galvanic or faradic current is an evidence of degeneration of the muscle fiber, and

that no improvement can be looked for in this paralyzed condition.

"Do we fail to obtain a contraction in most cases? No. We find that the cutaneous surface will not tolerate the pain of the current, and we must desist before contraction takes place, for most of the cases occur in children under 5 years of age, who see no reason for enduring the physical pain. This is even true in other cases when the age of the patient and his cutaneous tolerance are greater; the strong current may give no reaction and still the reappearance of function may occur.

Fig. 3. Hospital for Deformities and Joint Diseases. Dispensary. Admitting room on the main floor. Two clerks are employed to register old cases, one for new cases, and two stenographers to take the histories of new cases. There is also a drug room, with a dispensary assistant.

"The strength of the current used should be the weakest that will produce a contraction, but it is never to be used after contraction of the muscle ceases—no longer than from two to three minutes on any particular muscle group, or from six to twelve minutes on the body at one time. If this method is followed, the child will not cry from pain or have its nervous system upset by too long-continued electrical treatment. It is to be regretted that the worst results have often been in children in physicians' families, where there has been an excess of treatment—that is, electricity given from half an hour to an hour daily."

In the new dispensary, which is one of the most up-to-date and modern structures of its kind in the world, rooms in the basement have been set aside for the manufacture of mechanical braces and other forms of instruments, and for experimental investigations in appliances. There will also be a shop for the manufacture of shoes for patients afflicted with painful and deformed feet. This is an essential feature in orthopedic work, as, by properly shoeing a large number of those afflicted, they are again enabled to resume their vocation and make a livelihood for themselves and family. It is the earnest hope of the directors of the hospital that ways and means may be found to equip and operate the brace shop, so that all of the worthy poor who apply may be given the shoes and braces required free of charge.

An assembly waiting room, with executive offices, a drug department, a suite of offices for the physician and surgeon-in-chief, and five rooms for the application of plaster, are on the first floor. The latter department is used for the correction of congenital dislocation of hips, bow legs, knock knees, paralytic distortions, and club feet.

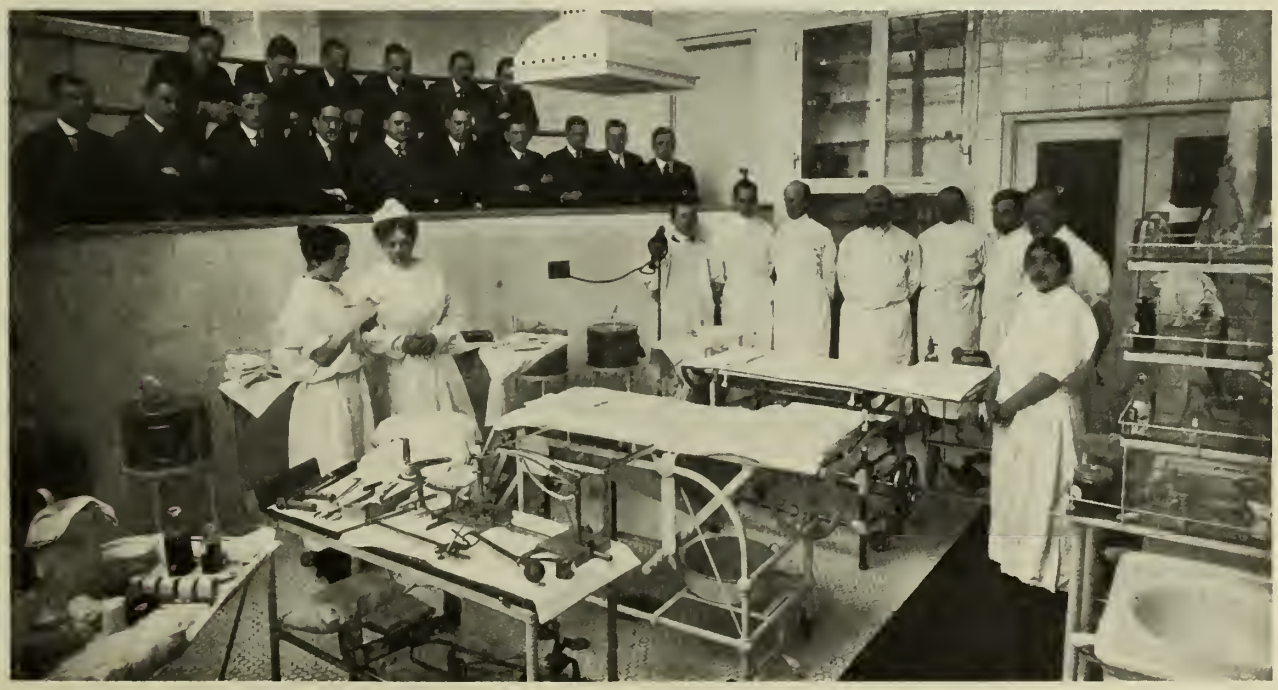

Fig. 4. Hospital for Deformities and Joint Diseases. Operating room. Note the two tables for simultaneous operations.

Fig. 5. Hospital for Deformities and Joint Diseases. Massage and electrical clinic of dispensary.

Separate rooms for the examination of patients are on the second floor, and here those afflicted with various types of joint diseases and needing the application of splints are given attention. Hundreds of children suffering with hip and spine diseases are in this way relieved of their suffering.

The third floor of the building is devoted to the treatment of the various types of infantile paralysis by means of massage and electricity. The rear portion of this floor is devoted to the massage of female adults.

On the fourth floor is the Zander apparatus for stiffened feet and joints. Men and women who were unable to get about from painful and flat feet have been cured by this means and again made useful members of society. There is also installed on this floor a Tyrnauer baking apparatus for the application of hot air to joints and muscles, which is an efficient adjunct to the treatment of muscular and articular rheumatism. There is a certain type of joint condition resulting from mouth infections, for the relief of which there has been provided a fully equipped dental department on the same floor.

On the fifth floor of the hospital there is a separate male and female division. Here the area is given up to two large gymnasiums, the walls of which are covered with mirrors to provide for the mental concentration on muscle effort. This department is one of the most important of the institution. Cases which do not require operation or apparatus for improving their deformities, but rather a course of training for the development of weakened muscles which tend toward bodily deformity, are treated here. The results have been so far superior to those obtained by any previous method of physical instruction that not only has it been the means of materially increasing the clinic, but has won recognition and approval by leading members of the profession who have had the opportunity of seeing the results obtained.

The sixth floor contains a splendidly equipped chemical, bacteriological, and pathological suite of laboratories. This department is essential in obtaining the highest efficiency in differential diagnosis and treatment. On the rear portion of this floor is an amphitheater operating room, constructed on the most modern lines of aseptic surgery. In conjunction with it is a pus operating room, plaster room, anesthetizing room, and sterilizing room. There is also an x-ray and photographic department.

The founding of the institution reads like a romance. In the course of his remarks at the dedication of the new dispensary in November, 1914, Jacob H. Schiff said:

"It is a great satisfaction for me to be here today and look at this remarkable addition to the hospital—the new dispensary. On inquiry I have learned that this institution dates back to the establishment of the Frauenthal Clinic some ten years ago at No. 558 Lexington avenue, when Dr. Henry W. Frauenthal, in conjunction with his brother, Dr. Herman C. Frauenthal, and several other physicians, established a dispensary for the treatment of deformities and joint diseases.

"A year later sufficient funds were raised to purchase one of the houses here on Madison avenue, and on October 11, 1905, the first charter for the Hospital for Deformities and Joint Diseases was granted by the State Board of Charities. After another six months the directors found the demand for clinical attention and beds so great that, through the display of great energy and efficiency, sufficient funds were raised to purchase an adjacent house on Madison avenue and enlarge the facilities. Attendance at the clinic increased so rapidly that the purchase of another house was soon necessary. This was done in 1910, after which the three houses were converted into the present hospital building. Yet in another year the dispensary attendance had grown so that funds were sought and obtained for the purchase and erection of this new dispensary at Nos. 41-43 East One Hundred and Twenty-third street, which today is being dedicated to its purposes.

"Furthermore, from 1,212 cases who received 9,471

treatments in 1907, the work of the dispensary and hospital has grown many hundredfold and continues to increase at a rapid rate. I am also told that this is the only institution which accepts hospital cases from birth to 4 years of age and adults over 16 years. During the last seven years 18 percent were under 4 years of age, and 54 percent over the top limit of 16 years, thus showing that 72 percent of the work carried on in this institution is done by no other orthopedic hospital in the city. Certainly it is really a great distinction.

"The clinical attendance has reached 475 patients daily at this time, and this new dispensary gives adequate facilities for the treatment of 600 patients a day. Just consider what that means! The care of dispensary patients

Fig. 6. Hospital for Deformities and Joint Diseases. Dispensary. The application of galvanic, faradic, and sinusoidal currents for various types of children's paralysis, given under the supervision of two attending physicians.

requires the services of 40 medical assistants, 26 masseurs and masseuses, 9 physical culture teachers, and 8 nurses. I do not know this from personal investigation, but I am sure my information is correct.

"This is, as you see, a significant work of no mean proportions, and we can only admire the courage and persistence of Dr. Henry W. Frauenthal and the trustees of this wonderful hospital. In the face of many obstacles they have made it possible from very small beginnings, not very many years ago, to develop here a great institution, sending succor and new hope to a class of sufferers in our midst who, without the scientific treatment they can secure here, would likely remain a burden to themselves and an expense to the community for their lifetime; but who, when leaving here, become in most cases restored to lives of usefulness and satisfied existence."

ARCHITECTURE OF THE NEW DISPENSARY—BY MAX G. HEIDELBERG, ARCHITECT

The problem involved in the design of the dispensary for the Hospital for Deformities and Joint Diseases was to create a dispensary occupying a separate building, but connected by a bridge with the present hospital (in conjunction with which it is used), and also to keep in view its relation to the large hospital which it is proposed to erect in the near future.

Unlike most other orthopedic dispensaries, which occupy either the ground or basement floors of large institutions, this dispensary occupies an entire building from cellar to roof. It is the largest building used exclusively for an orthopedic dispensary in this country.

In approaching the problem of building the dispensary, the surgeon-in-chief, Dr. Henry W. Frauenthal, the board of directors and the architects, Max G. Heidelberg and E. Levy, appreciated at the outset that only by the most careful study of the most economical materials and space subdivision could a building large enough and adequate to the needs involved be constructed with the funds at their disposal. A study of many other hospital and institution buildings convinced them that a great deal of money is being wasted in useless expenditure on what might be termed the show points of a building—marble in unnecessary places, ineffective ornament, waste space, unnecessarily expensive and elaborate mechanical equipment, useless ventilation schemes, hardware and plumbing fixtures unnecessarily elaborate. These are some of the things that are put into a building to impress prospective donors and shed glory on the architects and institutional managers. The able and experienced business men who form the larger part of the board of directors of the hospital feel that a strictly practical, economical building makes a far deeper impression on those experienced in hospital work and also on the public, which is interested in this kind of philanthropy. An important factor that had to be considered was the large number of patients which the dispensary has to treat every day, for the nature of this dispensary work is such that the

Fig. 7. Hospital for Deformities and Joint Diseases. Dispensary. Electrical baking apparatus for chronic joint conditions.

patients return again and again for treatment, often for a period of over a year. Again, the nature of the treatment is such that there is an excessive amount of circulation of patients through the building, and the wear and tear upon the building is therefore well above the normal.

The dispensary is 39 feet wide and 90 feet deep, six stories and basement, and, besides a fire escape, stairs, and main stairs, it contains an elevator large enough to transport a patient on a

stretcher. The building is absolutely fireproof. Particular attention was paid to the use of the proper floor material, and, with the exception of the operation room, the floors throughout are of Kompolite, with sanitary base and rounded corners. Throughout the entire building iron hospital trim flush with the finished plaster has been used. The basement of the building contains the

Fig. 8. Hospital for Deformities and Joint Diseases. Dispensary. The application of massage for various types of birth and acquired paralysis.

necessary engine and boiler room, large storage room, room for the storage and making of plaster for the cast work, and in the rear a well-lighted and fully equipped machine and brace shop, and a shoe shop and leather working room. The building has windows on three sides, and has no artificial ventilation plant.

A well-heated lobby gives entrance to the main waiting room on the first floor. This lobby is an essential appendage to a waiting hall, where there is a constant flow, in and out, of patients. In the center of this room, and controlling by its position both the entrance door and the elevator, is a small office where all patients, both incoming and outgoing, are checked, and passed on to the proper clinical rooms. At the rear of this floor is a large examination room, divided by high marble partitions into a series of smaller examination rooms, each of which has an entirely separate window to provide for properly controlled ventilation. On this floor there is also a drug dispensing room, and small suite of offices for the chief surgeon. Care has been taken to have all marble partitions on legs and free from the floor.

On the second floor the entire front portion of the building is devoted to the examination room for female patients. This large room has been divided by marble partitions into six smaller examination rooms of this kind, each with a separate window for the proper control of the ventilation in this cubicle. A unique device for examination rooms of this kind is properly designed hardware, so that a physician on the outside of the room can determine whether the room is being occupied without opening the door. In direct conjunction with the series of smaller examination rooms is a surgical dressing room, a doctor's office, a general utility room, and toilet. The same scheme exactly has been adopted at the rear of this floor for the examination of male patients. A small isolation room has been found convenient for temporary isolation in case a patient is found to have a contagious disease.

The third floor contains in the rear a room about 40 by 40 feet, which is used as a waiting room for children who are to be given massage and electrical treatment. A women's and children's toilet, a doctor's office, and a general utility room complete the third floor. Special attention was given to the design of the equipment in the

Fig. 9. Hospital for Deformities and Joint Diseases. Dispensary. Dental department for the cleaning of teeth and clearing up of focal infections in the gums producing joint manifestations.

utility rooms, which is uniform throughout the entire building, the shelving, cabinets, fixtures, etc., being designed to meet the special requirements of orthopedic work.

The front portion of the fourth floor contains a room about 50 by 30 feet, which is used for joint and foot treatment, and attention was given that proper wall space was found for the installation of the large amount of apparatus. A surgical dressing room, doctor's office, utility room, and women's toilet are connected with it. The rear is used for the same purpose for men. Connecting

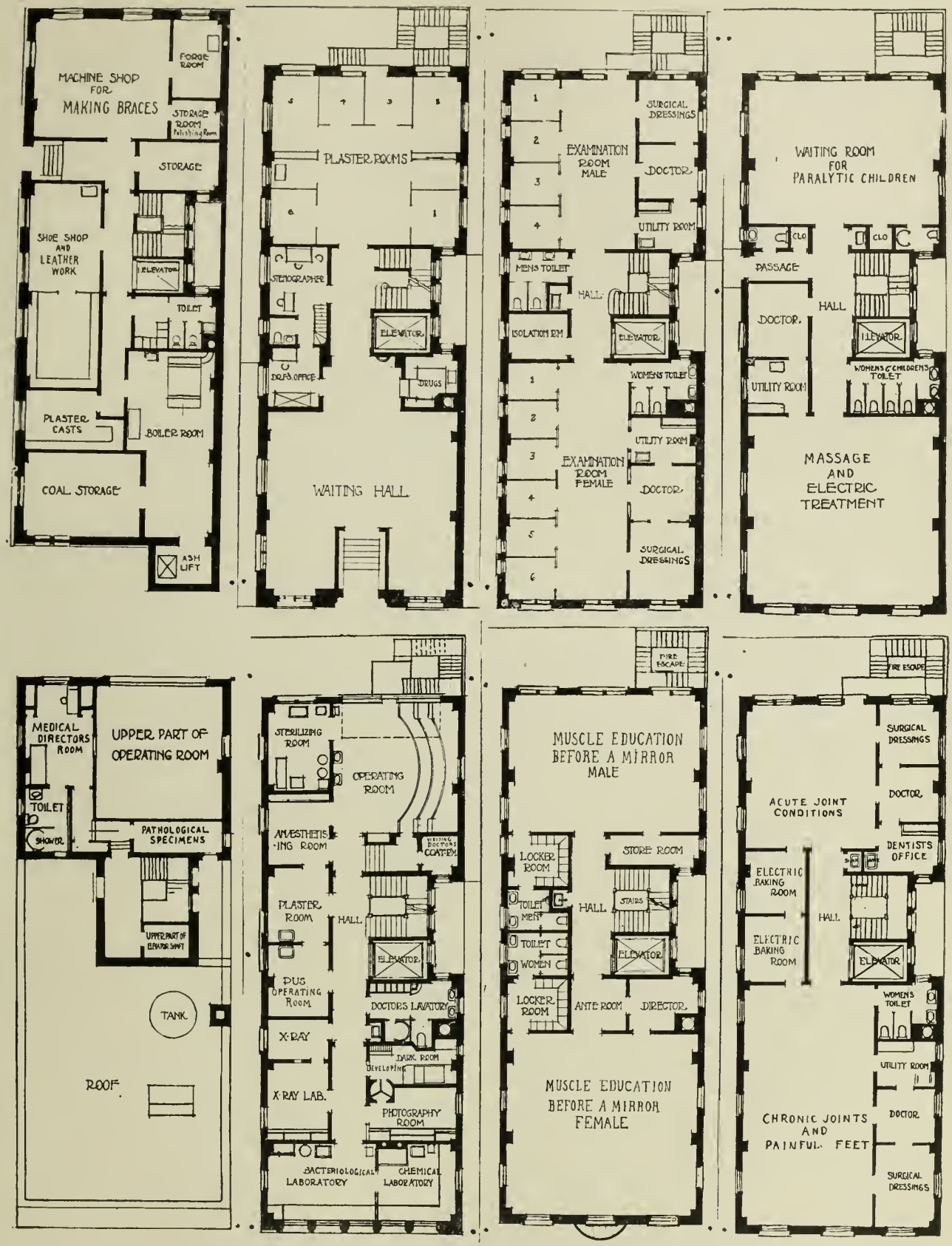

Fig. 10. Hospital for Deformities and Joint Diseases. Floor plans of dispensaries.

with each of these larger rooms is a smaller room containing the electrical ovens used in the foot treatment. A completely equipped dental office is also installed on this floor.

The entire fifth floor is devoted to the two gymnasiums, which are really rooms for muscle education—the front portion for females and the rear portion for males. Particular attention has been

paid to the ventilation of these rooms, and both of them have windows on three sides. Adjoining each of these rooms is a locker room, equipped with steel sanitary lockers, toilets, and dressing rooms. A large storage room and physical director's office complete this floor.

The top floor, in large part, is devoted to the main operating room and auxiliaries. In the front portion of this floor is a completely equipped chemical and bacteriological laboratory, containing the necessary hoods, ovens, sinks. etc. The x-ray department, one of the most important departments, contains an x-ray room, with an x-ray laboratory adjoining it and divided from it by a door with lead glass, so that the patient may be photographed from the laboratory without the operator coming in contact with the x-ray. There is a completely equipped dark room and photography room. The dark room can be reached from the photographer's room by a small three-leaf revolving door, which permits the photographer to go freely from one room to the other without allowing any light getting into the dark room. The revolving door has proved a very successful and unique device. The operating room takes up the entire rear portion of the floor, the penthouse forming the upper part of the operating room, which is really two stories high. In the penthouse is the medical director's room, with a large plate-glass window, and through this window there is an unobstructed view of everything that is being done in the operating room. The operating room contains a gallery for visiting surgeons and students, and the room is so planned that it can be reached without spectators going into the operating room or coming in any way in contact with it. The operating room is so arranged that two operations can be carried on simultaneously without in any way interfering with each other. This has been achieved by means of a double equipment. The room has tile floor and has tile walls from floor to ceiling. Instrument cases are built flush with the tiling. Next to the operating room is the sterilizing room. A suction fan has been installed in this room and has proven very successful and eliminates the objectionable condensation due to the steam which is usually found in sterilizing rooms. On this floor there is also an anesthetizing room, a separate room for plaster operations, which it is not advisable to carry on in the general operating room, and a small operation room for pus cases.

A careful comparison has been made of the cost of construction of this dispensary with other buildings of a similar type, and it has been found that the building has been built and equipped at the very minimum cost per cubic foot, and at the same time, I believe, a careful examination of this building and equipment will prove that no necessary element has been omitted, and nothing has been sacrificed which would impair its value as a working institution.

SOLVING THE PROBLEM OF THE HIGH COST OF LIVING IN THE HOSPITAL

Louisville City Hospital Plans Retrenchment in Supplies—Economy in Use of Drugs, Gauze, Laundry, and Food Stuffs—Practical Methods of Saving

By J. W. FOWLER, M. D., Superintendent

THE fiscal year of the city of Louisville, Kentucky, for 1916-1917, began September 1, and the annual appropriations for the various departments of the city government were made by the general council to cover one year. The appropriation for maintaining the City Hospital, a purely charitable institution with no income, was $165,000. This sum was based on our estimate as to the approximate cost of maintaining all the departments of the hospital for twelve months. At the end of October we found that, on account of the advance in price of everything used in the hospital, our expenditures were exceeding the appropriation by $2,000 per month. If this deficit continued throughout the year, we would be $24,000 short with no apparent means of meeting the deficit. In this dilemma we reported the facts to the Board of Public Safety, who are the governing body of the hospital, with the statement that we would either have to have a larger appropriation or else make heroic sacrifices in order to make both ends meet.

The board authorized us to formulate such plans as would be possible and practical in retrenching expenses in all departments of the City Hospital. To this end we called the heads of all the departments in consultation and formulated the following plans for curtailing expenses.

MEDICAL AND SURGICAL STAFF ECONOMIES

It was decided that the surgical department be required to use the utmost economy in the use of surgical dressings, gauze, cotton, plaster, catgut and alcohol. The co-operation of all the staff was urged to cut down the number of hospital days of patients at the hospital, getting patients out

of the hospital as soon as possible, utilizing the cooperation of the district nurses' social service department to this end. It was recommended that the prescriptions, wherever possible, be in drop doses, and the amount lowered to one-half; that prescriptions given in teaspoonful doses be lowered to 3 ounces; that the number of powders be lowered to twenty, and wherever possible, less than these maximum amounts should be ordered.

During the present high cost of drugs, only the following vaccines and antitoxins are to be used: diphtheria and tetanus antitoxins, typhoid, gonococcus and smallpox vaccine and Flexner's antimeningitis serum; where possible, in chronic cases, autogenous vaccines to be made in the laboratory. Expensive and fancy drugs are to be limited as much as possible in both in-patient and out-patient departments. The following list of drugs is included: pituitrin, adrenalin chlorid, potassium-iodid, balsam of Peru, phenacetin, guaiacol, salol, sodium benzoate, aspirin, creosotal carbonate, theobromin, sodium salicylate and carbolic acid. The members of the staff were urged to confine their use of drugs to those that are well established and essential to the patients' welfare, until such time as the cost of drugs is less.

THE HOSPITAL MATRON'S ECONOMIES

To economize in gauze a central supply station was established, and the gauze supply issued from this point upon properly signed requisition. Each ward requiring gauze or dressings of any kind should be supplied according to the number of patients receiving surgical dressings. For instance, it is an absolute waste to send dressings sufficient for ten patients when dressings for only three are required; the gauze thus acquired is in nearly every instance misappropriated. On account of this surplus on hand, it was freely given patients, some using it for handkerchiefs and as rags for general cleaning purposes, and on many of the wards it was used for penwipers, instrument cleaning, etc. In no case should patients be given gauze at any time for any purpose. Gauze not under lock and key is often carried away by students, nurses and other employees to their rooms for future use.

Further gauze economy would result from using the old dressings, the best of which could be sent to the laundry, carefully washed, and taken through a thorough process of sterilization and issued to wards to be used again and again.

For freely discharging abdominal, rectal and other similar wounds a dressing known as a "pad" is made by wrapping a square of absorbent cotton in a single piece of gauze, thereby taking the place of seven or eight rolls of gauze.

Doctors and nurses in almost every instance use gauze too extravagantly in receiving and preparing emergency cases for wards even though they know that the instant the patient reaches the ward these dressings will be removed and destroyed. In receiving and preparing these cases for the wards, washed gauze could be used; it would give exactly the same results, and would mean a saving of from ten to possibly fifteen rolls of gauze in this one particular case.

All gauze is to be cut in uniform lengths. When a piece or roll of new clean gauze falls to the floor in the dressing room or at the bedside, this does not, or should not, by any means necessitate its being thrown away.

Further economies in the matron's department are: gathering soap scraps, melting them into a jelly soap and using for cleaning, etc.; substituting non-absorbent cotton, in every case in which it can be used with safety, for the more expensive grade of absorbent cotton carried in stock in the drug department; encouraging care of linen and mending it at first sign of wear; mending and darning every article; making crib sheets and spreads out of the best part of condemned sheets and spreads; cutting all towels a trifle shorter, and thereby cutting from eight to ten more towels out of each bolt; substituting 7 by 4 sheeting for the 8 by 4 sheeting, and using tape cut from condemned articles for mending purposes.

ECONOMY IN THE LAUNDRY

Ten thousand pieces of laundry were being turned out daily. This expense was cut down one-fourth in the following manner:

1. By requesting the nurses to keep within the limit as to their personal wearing apparel, which was very largely exceeded.

2. The rule that all bed linens on the ward should be changed daily was modified to read: "Change when necessary."

3. The bedspreads, which had been left on the beds at night, were ordered folded and put in the chair at the foot of the beds, thus obviating the necessity of their being washed so often.

4. Officers, interns and employees were required to be more sparing in the use of towels, sheets, etc.

By saving one quart of liquid soap in each machine full of soiled linen, at the end of the day's work we save 5 gallons of liquid soap or 3 pounds of raw soap, making a total saving for the month of 75 pounds of raw soap.

In connection with the soap we were using 18

pounds of soda a day; we have cut this amount to 12 pounds a day, a saving of 6 pounds a day, or 150 pounds a month. We used bluing once a week, and are now using it once a month with good results. Instead of using hot water for the first rinsing of clothes, we are now using hot and cold, making a saving of 3,000 gallons of hot water a day, and a reduction in candle-power of 600 watts a day.

ECONOMY IN THE STEWARD'S DEPARTMENT

Milk is not to be served as a beverage in the dining room of officers, interns, nurses and help, but for cereals and coffee only. Chicken is to be served for meals less often and the number of times eggs are served at meals is to be reduced. Eggs are not to be served to patients for dinner, as hot soup, vegetables and meat are sufficient; also butter is to be eliminated in all departments for dinner for the same reason. One kind of fruit only is to be ordered, instead of three, each week, oranges being served one meal, bananas the next, etc.

CHEF'S QUOTA

Steaks.—We use none but the best top sirloin and tenderloin. The trimmings we use for hash, stew and hamburg meat. Bones are saved for making stock for broth and gravy. Fat is rendered for frying purposes.

Roast Beef.—We use only choice ribs; the short ribs, or ends, and platter are used the same as the steak trimmings.

Pork.—We use only loins. The backbone is to be cut out and saved to season turnips and parsnips. Trimmings of pork chops are used for the same purpose.

Ham.—Choice No. 1 is used. The skin and bone are to be saved for seasoning greens, string beans, lima and navy beans.

Breakfast Bacon.—Trimmings from this are used for the same purpose. Bacon grease is used for making corn-bread.

Buttermilk and soda are used for griddle cakes, biscuits and corn-bread.

For chicken broth and soup we use only trimmings. Chicken is used cold or in other ways.

We save all the trimmings of grease and fry it out for frying purposes.

The potato clippings are used in the boiler room for cleaning out boilers to a good advantage.

ECONOMY IN THE PHARMACY

In the drug department all preparations such as tinctures, fluid extracts, ointments, disinfectants and special formulas are made from the crude drugs and chemicals where assaying is not required to determine their potency.

The waste of such articles as adhesive plaster, cotton and alcohol, is reduced to a minimum by placing proper restriction upon their use.

All disinfectants, mice, roach and ant exterminators are manufactured in the pharmacy, thus saving the profit made by dealers.

The use of whisky for medical purposes will be reduced from twelve to three barrels per year.

ECONOMY IN THE LABORATORY

In the laboratories formaldehyde and alcohol, after being used for primary purposes, are filtered and used secondarily for cleansing and disinfecting purposes.

Glass slides are cleaned and used over and over. Old gauze received about surgical specimens, if not infected, is washed and used for cleaning purposes.

All media, vaccines and reagents for serological tests, etc., formerly purchased at exorbitant prices, are made in the laboratory by the staff.

Instruments are kept in repair by the diener, instead of being sent out to a machine shop.

CONCLUSIONS

In making a careful survey of the various departments, we find that while many things have advanced enormously, and the use of a few are prohibited by the high cost, the general increase in prices has been approximately 30 percent.

By the systematic plan outlined we shall save a large amount, but perhaps not enough to meet the apparent deficiency, and in that case must rely upon the Board of Public Safety to come to our aid.

We confidently hope that, of the many thousand readers of THE MODERN HOSPITAL, some will give us the benefit of their views upon the subject of retrenchment in a subsequent issue.

School Clinic for Subnormal Children

Subnormal and defective children in the schools of Berkeley, Cal., are to be studied in a new clinic at the Berkeley Dispensary, in charge of Dr. Olga Bridgman, of the University of California. Dr. Bridgman is to work in cooperation with the teachers in the schools throughout the city. It is the intention to segregate in special classes children who do not measure up to normal standards by the Binet-Simon and other tests.

Miss Mary C. Fellows, formerly superintendent of the City Hospital, Washington, Pa., has been engaged by the Board of Directors of the Oil City General Hospital, Oil City, Pa., as superintendent of the latter institution, succeeding Miss Emma Keating, resigned.

GELATIN AND JELLY POWDERS[1]

Their Composition and Character—Gelatin Useful as a Protein-Sparer—Jelly Powders an Uneconomical Source of Cane Sugar

By JOHN PHILLIPS STREET, Chemist Connecticut Agricultural Experiment Station, New Haven, Conn.

IT is somewhat difficult to draw a distinct line of demarcation between gelatin and glue. They differ chiefly in the care employed in their manufacture. Both are produced by treating the collagens of bones, tendons, cartilage, etc., with boiling water. Speaking somewhat broadly, glue is an impure, dark-colored, low-grade gelatin, usually containing more or less chondrin, gelatoses, gelatones, and other impurities. Gelatin, on the other hand, is distinguished from glue by its purity, light color, clearness, and high jelly strength. The same raw materials may yield either glue or gelatin, depending chiefly on the skill and care used by the manufacturer.

In brief, in the manufacture of these products the raw materials, after being cleaned and "plumped," are acted upon by boiling water or steam. The fatty matters occurring in the resultant liquor are removed by skimming, and the solution is bleached, clarified, filtered, and evaporated, and then drawn off into pans, or on cooled slabs, where it sets into a jelly.

Bones, sinews, cartilage, skins, and hides are the chief sources of glue and gelatin. It is often erroneously stated that glue is made from bones and hoofs; as a matter of fact, these materials consist largely of keratin and yield no glue. The bony support of the horn, or hornpith, however, yields a specially fine gelatin. By certain authorities it is claimed that the difference between gelatin and glue lies in the relative amounts of glutin and glutose in each. Glutin is the gelatinizing constituent of gelatin, the best product containing the highest proportion. On the other hand, glutin in glue is a detriment to its adhesive power.

The connective tissues of young animals are especially rich sources of gelatin-yielding material. Calves' feet are particularly valuable for this purpose, but perhaps the purest form of all is isinglass, which is derived from the swimming bladder of fish, especially the sturgeon.

Not only must a distinction be made between gelatin and glue, but technical gelatin and food gelatin must be recognized as quite different products. Technical gelatin, as its name implies, is used in various manufacturing processes, such as stiffening straw hats, finishing curtains, photographic emulsions, hectograph base, etc. Gelatins of this kind generally contain a preservative of some sort. Food gelatin, on the other hand, should consist only of clean, high-grade gelatin free from all harmful substances, and should be properly made under sanitary conditions from carefully selected raw materials. Purity, color, clearness, and jelly strength are characteristics of a good food gelatin.

The essential characters of a good gelatin for food purposes are expressed in another way by Parry (Food and Drugs, 1, 414):

"1. When soaked in cold water for four hours, and then made into a jelly by heating with water, it should yield no offensive odor.

"2. If in aqueous solution it yields an appreciable precipitate with solutions of alum, lead acetate, or ferric chlorid, it is of inferior quality, containing an excess of chondrin, due to the decomposition of hyaline cartilage.

"3. The ash should contain no heavy metals, such as copper, sometimes present to the extent of one gram per pound, and not more than 10 parts of iron per 100,000.

"4. It should not contain more than 5 parts of sulphurous anhydrid per 100,000."

Parry's specifications suggest the presence of certain mineral impurities which may have an important effect on the healthfulness of the gelatin. Such impurities as sulphurous acid, arsenic, copper, and zinc have been frequently found.

Gelatin formerly was quite generally treated with sulphurous anhydrid for antiseptic or bleaching purposes. If care was not taken in the selection of the stock and in its subsequent treatment, very appreciable amounts of this preservative might be found in the finished product. On the other hand, if careful manufacturing methods are followed, the amounts may be kept so low as to be negligible. Leffmann and LaWall (*Analyst*, 1911, 36, 271) have shown that in 86 samples from one factory only two contained more than 50 parts of sulphurous anhydrid per million, and 6 of the remainder not over 15 parts; 18 contained but traces, and most of the remainder less than 10 parts, far below Parry's requirements. Two samples, however, from another source, inferior in appearance and somewhat offensive in odor, contained 305 and 331 parts per million.

Padé (*Ann. chim. anal. appl.*, 1908, 13, 299) found in 100 samples from 0 to 7 grams per kilo. McGill (*Can. Int. Rev. Bull.*, 273, 1914) found in 161 samples sulphurous anhydrid ranging from a trace to 1,090 parts per million.

[1]This is one of a series of papers on Foods and Food Constituents. These papers appear monthly.

Apparently this acid is not used as commonly today as in the past. Certain data of Poetschke (*Jour. Ind. Eng. Chem.*, 1913, 5, 980) illustrate this point very clearly. The samples examined in his laboratory over a period of several years may be classified as follows:

In 1907 20 percent of samples showed less than 100 parts per million.

In 1907 35 percent of samples showed more than 500 parts per million.

In 1908 61 percent of samples showed less than 100 parts per million.

In 1908 21 percent of samples showed more than 500 parts per million.

In 1911 88 percent of samples showed less than 100 parts per million.

In 1911 36 percent of samples showed more than 500 parts per million.

From the foregoing data it is evident that there is no excuse for more than almost inappreciable amounts of sulphurous acid in a gelatin carefully made from good material. As to other mineral impurities, data are not so abundant, but it may be said that in most edible gelatins offered for home consumption they are relatively of rare occurrence. Hart, however (*Seventh Internat. Cong. Appl. Chem.*) reports copper up to 56.3 milligrams per kilo, while Kopké (*Arb. kais. Gesundheitsamte*, 1911, 38, 290) reports that of 12 samples of commercial gelatin 8 contained appreciable amounts of arsenic, ranging from 5 to 30 parts per million, the other four containing mere traces. The United States Government notes two instances, both the product of the same manufacturer, in which 14 and 13 parts, respectively, of arsenic per million were found. In the former sample 230 parts of zinc per million were also present. (*Notices of Judgment*, 2295 and 2629.)

Such impurities as these, of course, should not exist, and manufacturers should make every effort to so improve their processes as to eliminate them from the finished product. The presence of arsenic may be accounted for by the fact that the gelatin is often prepared from hide and leather residues, which have been treated with lime and arsenical preparations, or from bones which have been extracted with mineral acids containing arsenic as an impurity. The sulphurous acid used for bleaching is likewise not always free from arsenic.

Gelatin is used extensively in jellies, jams, candy, ice cream, various dessert preparations, and in many dishes intended for the sick and convalescing. It is important, therefore, not only to keep in mind the possible existence of mineral impurities and the possibility of the product having more the qualities of a glue than of a food gelatin, but also to recognize clearly the limitations of gelatin as a food product.

Gelatin is very easily digested in the stomach, and has the advantage of fixing considerable acid during the digestion process. It is accordingly of service in cases of hypersecretion of acid in the stomach. Gelatin, however, does not build tissue, and is in no sense a true substitute for protein. It is as a sparer of protein that its importance in the diet is shown. It is probably the most efficient protein-sparer known, being able to save from destruction about half its weight of protein. In estimating its value, however, as an ordinary food even in this direction, it must not be overlooked that even those subsisting chiefly on an animal diet do not consume more than 10 to 12 percent of their total nitrogen in the form of gelatin, and that probably not more than from 25 to 30 grams of the latter can be taken with convenience per day. Its usefulness in the diet, therefore, is restricted, for even as much as a quart of jelly would be able to spare the protein of only 2½ ounces of meat. In the diet of the convalescent, however, jellies are of service, but their nutritive value depends mainly on the sugar they contain and not on the gelatin. This is more apparent when one considers that a 1 percent solution of gelatin sets, and that the ordinary strength of jellies is 1 ounce of gelatin to the quart (a 2 percent solution), showing how little gelatin actually is present in ordinary jellies.

The United States definition and standard for gelatin states that it "is the purified, dried, inodorous product of the hydrolysis, by treatment with boiling water, of certain tissues, as skin, ligaments, and bones, from sound animals, and contains not more than 2 percent of ash and not less than 15 percent of nitrogen."

These two criteria, ash and nitrogen, are of considerable value in determining the quality of a gelatin, although, of course, the bacterial content and the amount of mineral impurities present are of even more importance. It may be said, however, that, generally speaking, the uses to which gelatin is put in the household necessitate a highly refined product, and a gelatin generating an unpleasant odor on cooking would at once demonstrate its unfitness for culinary purposes. Similarly with regard to mineral impurities, with the exception of sulphurous acid, which is gradually being almost completely eliminated from gelatin, the commercial brands offered for use in the home may be used, as a rule, with a feeling of complete safety. It is the product offered in bulk to the wholesale food producer that is more likely to approach glue in character and to contain mineral contamination.

The following table shows more or less complete analyses of 21 brands examined in the writer's laboratory. As indicated above, the percentages of ash and nitrogen give no definite information as to the source of the gelatin. A high ash, however, indicates an imperfect method of manufacture, and a low nitrogen suggests an impure article. All the brands in the table, except one, practically satisfy the standard's requirement as regards nitrogen, the deficient brand containing about 16 percent of sugar. Five of the brands contain more than the 2 percent ash of the standard, in one brand this ingredient amounting to as much as 3.20 percent.

TABLE I. ANALYSES OF GELATINS

BRAND	Water	Ash	Gelatin (N x 5.55)	Undetermined	Total nitrogen
Adams' Refined Sparkling	13.90	1.98	83.58	0.54	15.06
Bakers' Calves' Foot	12.26	1.70	84.25	1.79	15.18
Chalmer's Transparent	14.18	1.75	84.80	* 0.73	15.28
Cooper's (Peter), clarified	13.30	2.55	83.03	1.12	14.96
Cox's Instant, powdered	13.81	1.80	84.36	0.03	15.20
Crystal	12.09	1.18	85.36	1.37	15.38
Essex 5 XIC	.....	1.44	85.80	.....	15.46
Flag Brand Calves' Foot	12.05	3.20	83.69	1.06	15.08
Grandmother's A. & P.	12.63	1.95	84.58	0.84	15.24
Hughes' No. 1, granulated	.....	1.75	83.25	.....	15.00
Hughes' No. 2	.....	2.37	84.58	.....	15.24
Keystone Silver White	12.35	2.50	84.25	0.90	15.18
Kingery's Crystal Flake	.....	1.72	83.92	.....	15.12
Knox's No. 1 Sparkling Calves' Head	13.75	1.77	84.69	* 0.21	15.26
Milligan & Higgins'	.....	0.95	85.45	.....	15.40
Minute, plain	10.05	0.80	72.83	†16.32	13.12
Star Brand Calves' Foot	14.70	1.40	83.14	0.76	14.98
Swampscott Sparkling	13.15	1.60	83.69	1.56	15.08
Walker's, granulated	11.06	1.35	87.02	0.57	15.68
White Rose Brand	14.50	2.23	82.97	0.30	14.95
Williams' Sparkling, ground	13.41	1.12	85.14	0.33	15.34

*Ingredients as determined exceed 100 percent by this amount.
†Largely sugar.

The cost of the various brands is well worthy of consideration. The familiar commercial brands are generally offered in packages containing from 1 to 2 ounces at prices ranging from 5 to 15 cents, so that the gelatin actually costs from 2.4 to 12.9 cents per ounce, certainly a very wide range in price.

JELLY POWDERS

These preparations are widely used as quickly and easily prepared desserts. They consist chiefly of cane sugar, with sufficient gelatin to make a jelly, and are variously flavored and colored to simulate the flavor and color of natural fruits. With hardly an exception, their compound nature is more or less clearly indicated on the package label. It should be clearly understood that certain so-called fruit extracts, like banana, pineapple, raspberry, and strawberry, are usually synthetic, and therefore the consumer, in using jelly powders and similarly flavored products bearing the names of these flavors, should not be misled into believing that the genuine fruit flavor is being supplied in all cases.

In Table II are given the results of two inspections of these powders conducted by the writer. In several instances it will be seen that in the period between the two inspections the manufacturers improved their product by using a vegetable color instead of a coal-tar dye, and in the case of one manufacturer in both his raspberry and strawberry powder the natural flavor was substituted for the synthetic. It is possible further improvements may have been made in the last few years, and for that reason the table supplies the date of analysis in order that it may be clearly understood that the data given apply only to the product as offered at that particular time.

Entirely aside from the use of artificial color and flavor in these powders, the consumer should

TABLE II. ANALYSES OF JELLY POWDERS

Date of analysis	BRAND	Water	Ash	Gelatin (N x 5.55)	Cane sugar	Undetermined	Color	Flavor
1909	Bromangelon, strawberry	1.40	0.20	7.77	90.63	.....	†	.....
1909	Burnham's Jellycon, lemon	1.46	0.17	8.33	90.08	*0.04	‡	.....
1909	D-Zerta, raspberry	2.55	0.30	11.99	85.36	*0.20	‡	.....
1909	Gelver, lemon	2.16	0.20	7.77	88.45	1.42	O. K.	.....
1909	Grandmother's A. & P., strawberry	1.17	0.25	7.22	90.99	0.37	§	.....
1909	Hoope's, strawberry	1.97	0.35	9.44	84.97	3.27	§	.....
1913	Jell-O, chery	.....	.....	.....	.....	.....	¶	‡
1913	Jell-O, coffee	.....	.....	.....	.....	.....	O. K.	O. K.
1913	Jell-O, lemon	.....	.....	.....	.....	.....	**	O. K.
1913	Jell-O, orange	.....	.....	.....	.....	.....	†	O. K.
1909	Jell-O, raspberry	1.95	0.30	12.43	86.40	*1.08	‡	.....
1913	Jell-O, raspberry	.....	.....	.....	.....	.....	¶	‡
1913	Jell-O, strawberry	.....	.....	.....	.....	.....	†	‡
1909	Mohican, orange	1.25	0.18	6.22	92.57	*0.22	§	.....
1909	Plymouth Rock, coffee	2.00	0.90	13.54	80.81	2.75	††	.....
1913	Tryphosa, chocolate	.....	.....	.....	.....	.....	O. K.	O. K.
1913	Tryphosa, peach	.....	.....	.....	.....	.....	**	‡
1913	Tryphosa, pineapple	.....	.....	.....	.....	.....	**	O. K.
1909	Tryphosa, raspberry	1.14	0.13	5.77	92.80	0.16	§	.....
1913	Tryphosa, raspberry	.....	.....	.....	.....	.....	¶	O. K.
1909	Tryphosa, strawberry	0.92	0.20	5.55	92.87	0.46	§	.....
1913	Tryphosa, strawberry	.....	.....	.....	.....	.....	§	O. K.
1913	Tryphosa, terpeneless lemon	.....	.....	.....	.....	.....	**	O. K.
1913	Tryphosa, terpeneless orange	.....	.....	.....	.....	.....	**	O. K.
1913	Tryphosa, vanilla	.....	.....	.....	.....	.....	**	O. K.
1913	Tryphosa, wild cherry	.....	.....	.....	.....	.....	§	‡
1909	White Rose, raspberry	1.57	0.10	6.22	91.44	0.67	§	.....

*Ingredients as determined exceed 100 percent by this amount. †Cochineal. ‡Artificial. §Coal-tar. ¶Cudbear. **Vegetable. ††Caramel.

realize the exact nature of products of this character. As stated previously, they are simply mixtures of cane sugar and gelatin, generally about 9 parts of the former to 1 part of gelatin. In the light of this fact, it is obvious that the consumer pays a very high price for sugar when purchased in this guise—on the average about 22 cents per pound. The convenience of such preparations is beyond question, but, if one wishes to use material of this nature in making desserts, economy would suggest the purchase of pulverized gelatin, to which flavoring and sweetening might be added at will. There is no mystery in the compounding of these powders.

WORK OF THE DETROIT RECEIVING HOSPITAL

A Medical and Surgical Clearing House That Has Found an Important Place as a Social Agency—Some of the Emergency Cases

By JOHN DRETZKA, M. D., Medical Superintendent and Resident Surgeon

THE needs of a growing metropolis, which have outstripped its hospital facilities and have taxed the resources of private and public institutions as rapidly as they have been expanded, called for a Receiving Hospital in Detroit. The hospital, opened on October 12, 1915, has been utilized to the utmost every hour. The cases admitted are divided into five classes:

1. Public charges, unable to meet the expenses of treatment anywhere. These are sent in by order of the city physicians.
2. Psychopathic, including insane patients and advanced alcoholics and drug addicts, for which other hospitals have no accommodations.
3. Workmen's compensation cases.
4. Police cases, including the victims of assault and accidents and those held as prisoners and witnesses who are in need of hospital care.
5. Private patients, confined to a small number of disturbed psychopathic or other patients which hospitals generally are unable to receive.

The Receiving Hospital is distinctly an emergency hospital and in every sense a clearing house. It affords prompt treatment for the great volume of cases arising as a result of poverty, crime, vice, and casualties of a city. As rapidly as cases are admitted, they come under the supervision of the Social Service Department and of the hospital inspector. Psychopathic patients, if not cleared up and discharged at once, are held until committed to asylums or until their legal residence is determined. The victims of industrial accidents, coming under the state compensation act, are removed to whatever hospital they or their employers decide on. For the few private patients admitted a fixed charge covering expenses is levied. City patients include every sort of surgical and medical case demanding immediate hospital treatment.

The Social Service Department concerns itself with every patient on admission. This department gathers all the information possible from the victims of accidents or sudden illness, and notifies friends and relatives. When the patient is able to be discharged, a systematic endeavor is made to find employment for him, or, if he is not self-supporting, the case is referred to the proper organization for giving aid. The hospital inspector ascertains what cases are properly public charges, and recommends the removal as soon as feasible of all that are able to pay for hospital treatment. When contagious diseases are encountered the patient is quickly removed to a city hospital under the direction of the Board of Health.

The admissions for an average month will approximate 800, of which 60 percent are emergency cases. The steady influx of traffic accident victims forms the largest single class of surgical patients. In addition to those that are transferred to other hospitals after first aid is administered, a large number of patients are removed or sent to their homes after minor wounds or injuries are treated. Of this class those unable to pay for their treatment will return for dressings and other needed treatment as members of the out-patient section. About 600 out-patients are cared for in a month, making a total of 1,400 patients coming within the Receiving Hospital's scope of usefulness every thirty days.

The enforcement of the Harrison Drug Act threw on the community a large number of drug addicts, for whom no relief is available unless they can afford private treatment. Some of these are brought to the Receiving Hospital's psychopathic department, and others come of their own accord. When the patient's willingness to cooperate is demonstrated, a modified Towns-Lambert treatment is administered and a gratifying number of cures have been achieved.

Some venereal patients also apply for treatment. When a patient is found to be unable to pay, he is treated without charge, or, when it is determined that his means are adequate, he is required to pay for the materials used. Salvarsan injections are made under this policy if it is

positive that the patient would otherwise go without treatment because of his inability to pay even the most reasonable charges of a private practitioner.

Every effort is made to send patients out with a fresh grip on life, and there is nothing of the "charity" atmosphere in the hospital. All cases receive the same degree of interest and attention from admission to discharge. After a patient is registered, his clothing is removed to the laundry and disinfecting department in the hospital basement. If necessary, all garments are fumigated thoroughly. Washable clothing is laundered and other articles are cleaned and pressed. A staff of six resident physicians cares for all surgical and medical cases, and the cooperation of Detroit specialists has been obtained whenever needed in consultation. Thirty-three nurses, all graduates, are residents of the hospital and a social service director is on duty constantly. Two ambulances are operated from the hospital garage.

Present demands on the hospital indicate that additions to the present plant will soon be called for. The Receiving Hospital more than fulfills the intentions of those who brought about its establishment in that it affords prompt treatment for a large class of patients who formerly were apportioned by the poor commissioners, the Police Department, and Probate Court among hospitals which were constrained to receive them, no matter how they might interfere with the pressing claims of the regular hospital work.

NEW RECEPTION BUILDING OF HOSPITAL FOR INSANE, BROCKVILLE, ONT.

Recoverable Patients Are to Have the Benefit of Every Modern Convenience and Latest Apparatus—The Plans and Some Principles in Architecture

By J. C. MITCHELL, M. D., Medical Superintendent

THE new reception hospital in connection with the Eastern Hospital, Brockville, was opened on August 16, 1916. This hospital, which is built of brick, three stories high, is admirably situated about midway between the Prescott Road and the main building of the institution. Nature has supplied a beautiful setting for it, as it is placed in a grove of trees and has a splendid outlook on the St. Lawrence river. It is intended to accommodate 60 patients, 30 of each sex. Every comfort and convenience known to the science of mental healing have been carefully considered in the planning of this structure. In addition to four solariums, four large verandas have been provided, where the patients will be treated with Nature's own healers—fresh air and sunshine. These verandas have been provided with closed windows for winter, so that they can be used at all seasons of the year. Beds have been supplied with special rollers, so that the nurses can move even the weakest of patients onto the verandas without any disturbance.

Fig. 1. Hospital for the Insane, Brockville, Ont. General view of new reception building.

The main floor of the hospital contains the doctor's office and dispensary, the head nurse's suite of rooms, the diet kitchens, which are fitted with every modern and labor-saving device, and the wards and special bath rooms and lavatories are all tiled and fitted up in the most modern manner.

On the second floor are the resident physician's apartments (the assistant superintendent, Dr. Geo. C. Kidd), patients' wards and private rooms, attendants' quarters, also spray bath, bath rooms, etc.

The third floor is fitted up with nurses' quarters, storage rooms for patients' clothing, and the operating room, which has in connection with it sterilizing, anesthetic, doctors' and nurses' rooms. All fittings are of the most modern type, and it is one of the best operating rooms to be found east of Toronto.

The basement contains the boilers for heating water, electric motors for the operation of the elevator, which works automatically by the key method; also the electric ventilating system, which is very complete, changing the air in the whole building in a very short time by means of fans, one placed in the basement and the other at the top of the building. The hospital is to be heated from the central heating plant.

An electric lift is provided for conveying food from the kitchens to the second floor,

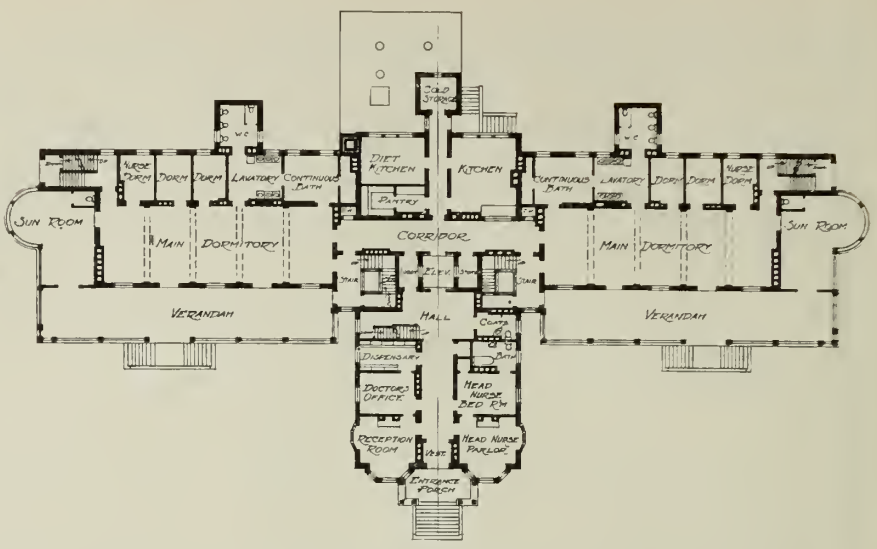

Fig. 2. Hospital for the Insane, Brockville, Ont. First floor plan of new reception building.

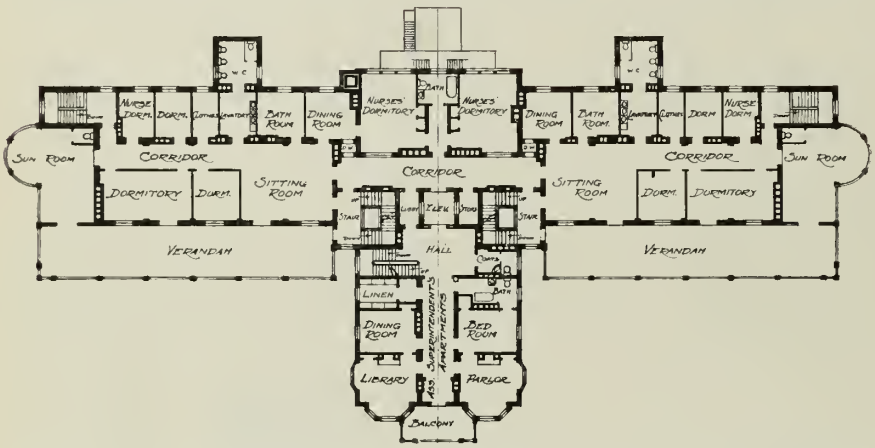

Fig. 3. Hospital for the Insane, Brockville, Ont. Second floor plan of new reception building.

where food wagons are provided to transfer it when required to the pleasant dining rooms located on this floor. A noticeable feature of this building is the homelike atmosphere that permeates into every nook and corner. The grounds surrounding the hospital are being laid out in terraces, and, in a short time, will be transformed into a bower of flowers and shrubbery.

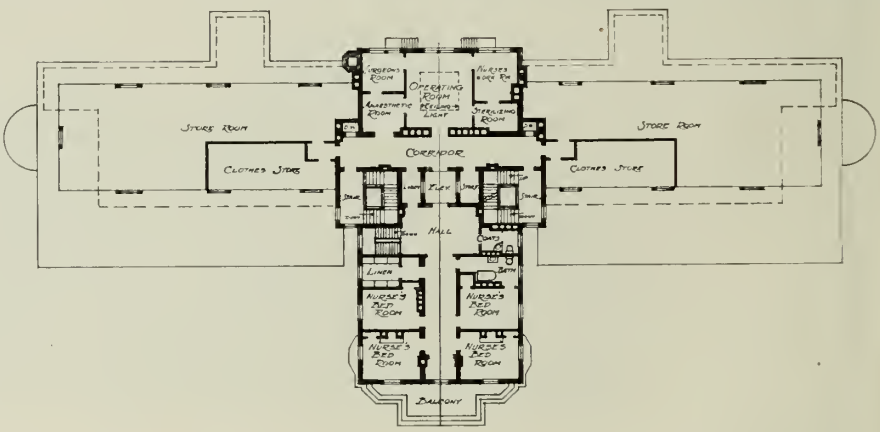

Fig. 4. Hospital for the Insane, Brockville, Ont. Third floor plan of new reception building.

The building is intended to be used entirely for the treatment and care of recoverable patients. Continuous baths, with other hydrotherapeutic equipment and massage tables, are being provided, so that nothing will be left undone which will give the patient an opportunity to make a recovery. The entire equipment of the building, with few exceptions, was manufactured at the Ontario Reformatory, Guelph, Ontario.

Traveling Dispensaries in India

Traveling dispensaries have been instituted in the United Provinces of India to combat plague, which seems to have become permanently domiciled there. The death totals have ranged, during thirteen years, from a minimum of 13,814 to a maximum of 354,285. The number of plague deaths for the year running from July, 1915, to June, 1916, reported on by the inspector general of civil hospitals of the United Provinces, Col. C. Mactaggart, was 35,929. The various measures employed under the direction of Rai Bahadur Kanonji Lal, chief plague officer, included the evacuation of infected premises, the systematic destruction of rats, preventive inoculations, etc., and also the organization of forty provincial and forty-seven district traveling dispensaries. These dispensaries have not confined their work to plague alone. Nearly a million patients have been treated, and over forty thousand inoculations have been performed. Inoculation is reported to be popular.

Dr. Edward C. Galsgie has recently opened a private sanatorium at Reno, Nev.

HOSPITAL SURVEY OF A COMMUNITY

Preliminary to Building—Factors to Be Considered—Extent and Prospects of the Population—Types of Construction Dependent on Local Conditions

By JOSEPH J. WEBER, Executive Secretary, Committee on Hospitals, N. Y. State Charities Aid Association

BROADLY speaking, there are just two ways of doing any specific piece of work: the haphazard, higglety-pigglety, inefficient way, and the orderly, scientific, efficient way. This is as true of the building of hospitals as of any other project. Heretofore, and in an appallingly large number of instances still, whenever any individual or group of individuals, representing private or public interests, builds a hospital, the initial approach to the problem is such as to lead inevitably to the building of a hospital that cannot be run efficiently or produce 100 percent results. The hospital is built, and its location, size, facilities, type, and cost of construction are often determined by the wish of some wealthy individual, by the predilections of some prominent physician or surgeon, by the apparent demand for increased hospital facilities, or by the pride of a community and its unwillingness to let a rival community seem to surpass it in the care of the sick.

To this unscientific method of approach in so important a problem there have been, to my knowledge, some notable exceptions in New York State, and, I doubt not, elsewhere. When in Tonawanda in 1912, Poughkeepsie in 1913, and, more recently, Washington county, the question of increasing the hospital facilities was raised, a thoroughgoing, detailed preliminary study was made to determine whether these communities actually needed additional hospitals, and, if so, what should be their exact location, size, and facilities. The question was settled, not as is so often the case, by the wishes or whims of an individual, or by guesses based on superficial indications, but by an orderly, thoroughgoing, scientific study of actual hospital needs, based on factors that will be set forth presently.

The complicated conditions that prevail, particularly in communities in which hospitals already exist, often make it impossible to act fully upon the findings of a scientific study; but the preliminary survey indicates that an honest, conscientious effort is made to get at certain information basic to the building of a hospital which is to render efficient service, and of which, on the one hand, the facilities will not be found inadequate, and, on the other, will not, so to speak, glut the hospital market with an unnecessary number of beds.

In making a preliminary survey, first to be inquired into is the broad question of the facilities actually needed for general medical and surgical service. This question naturally raises the further question as to what facilities for general medical and surgical cases already exist in the community. Are these facilities effectively managed and readily available? If so, it would be foolish and wasteful to duplicate them.

A study should be made of the extent of the population, its growth over a five-decade period as a means of estimating its probable future growth, and the movement or shifting of population, as, for example, from one part of a county to another. A study of the character of the population will be helpful in enabling one to determine the use that will be made of the hospital when built, and how to distribute the beds as between wards and private rooms. Ultimately education will lead those who need hospital care to avail themselves of it gladly and without fear, but it is a well-known fact that certain foreign groups still stand in dread of hospitals and will not willingly go to them. Where the population of a county is constituted mainly of the poor or people of very limited incomes, a greater demand will, of course, be made upon ward facilities than upon private rooms.

A further factor in determining the facilities needed is the number of sick who will require hospital care. In a community which has no hospital facilities, one help in determining this factor is to find out the number of patients that were sent from the community to available hospitals outside. This is to be determined either by a personal visit to these hospitals or by sending them a questionnaire on which they are asked to indicate not only the number of patients, but also their addresses, the length of their stay, and the general nature of their disease.

Further help may be secured by determining the ratio of beds to population, as indicated by the experience of other communities of similar size and composition. An illustration of this may be found in the very helpful table of the ratio of beds to population in the smaller cities of New York State, which constitutes Appendix 2 of the State Charities Aid Association's report on "A City Hospital in the Tonawandas."

A third help, not so easily secured, is the percentage of the sick who actually go to hospitals, taken in relation to the number of sick who should go to hospitals either because of the complex

nature of their disease, its contagious character, or home conditions inimical to adequate care. In a house-to-house inquiry which was made in an East Side and a West Side district of New York city in the spring of 1913, under the direction of Mr. Henry C. Wright, director of the Committee on Inquiry appointed by the Board of Estimate and Apportionment of New York city, it was found that 10 percent of the people who had been sick in these districts received hospital care, the remaining 90 percent being cared for in their own homes. The study of "Sickness in Dutchess County, Its Extent, Care and Prevention," which was made by the State Charities Aid Association in 1913, also showed that 10 percent of the 1,600 patients studied received hospital care. Some attempt was made to arrive at the percentage of patients who should have gone to hospitals in order to receive adequate care. The figure arrived at was 27 percent.

If the community is wholly or in part an industrial community, some study should be made of its industrial activities, with special reference to the number and kind of accidents and the number and kind of industrial disease cases.

Although the information may be used only in part, or used in the construction of special hospital facilities, a study should also be made of the facilities needed for special classes of cases. One should determine what has been the experience of the community as to the number, character, and disposition of various special types of diseases, as that experience has been determined by local conditions. The experience of other communities as to the disposition of various special types of diseases should also be given consideration. It would be well also to look up the judgment of leading authorities as to the ratios of beds to population for special types of cases, such as tuberculosis, other contagious diseases, inebriety, and mental derangement.

Not to be neglected, of course, is a study of the nursing service of the community and its bearing on the care of the sick in their own homes, so far as the nature of the disease and the conditions of the home will permit. This has a direct bearing on the hospital beds required. If the home care of the sick is efficiently organized, a community will make fewer demands upon hospital beds.

After the facilities needed have thus, with some degree of thoroughness, been determined upon, the next fundamental question is that of location. This should be determined by the distribution and trend of population; and in larger geographical and political units, such as counties, not by the desire of a particular individual to grace his little hamlet with a hospital that will stand as a monument to his folly or the folly of his community, whose laws or indifference allow him to construct it, but by a painstaking study of the topography of the geographical unit to be served, its size, its railroad facilities, public highways, cost and time required to bring patients from various parts of the community to the hospital, the convenience of physicians, and the probable influence upon the number and character of its patients, of larger, better equipped and better manned hospitals that are available and yet outside of the community.

Another item that should be included in the preliminary study such as is here suggested, is the matter of type of construction. What are the best materials to use in view of their durability, cost, and the climatic conditions under which they will be expected to stand up? Are the climatic and other conditions such as to call for a hospital of one or more stories? Should the hospital be housed in one building or several pavilions? What is the best and most efficient arrangement of building in the light of the size and shape of the site, the service the hospital will be expected to render, and the convenience and comfort of the patients, doctors, and nurses?

Far too many are prone to forget, or at least not to consider until too late, that after a hospital has been built it must be not only maintained but also so well run, both from the medical and administrative standpoint, as to commend itself to the public as a desirable place to go to when hospital care is required. It will be well, therefore, to consider carefully the cost of maintaining the plant it is proposed to build. As in the case of an automobile, the initial cost is often the lesser cost. To this end one should look carefully into the cost of maintenance of other hospitals of like size, not forgetting to add to or subtract from the cost as local conditions may dictate.

The best type of organization of medical service has probably not yet been fully worked out. A number of experts are engaged in this important problem, and some satisfactory results have already been attained. Those about to face the responsibility of governing new hospitals will wish to give careful consideration to the organization of other hospitals of like size and character, and get the best available advice by employing a hospital consultant whose ability as an expert has been attested by experience.

In some instances the preliminary survey may include some consideration of the question of administrative control, and, possibly, needed special legislation. A county, for example, may require permission to build a general county hospital.

Any bill to be introduced into the legislature for this purpose should be drafted with great care.

In closing this article, let me express the hope that the time may quickly come when those who have money to give for hospital construction will, in increasing numbers, give their money for hospitals, the size, location and facilities of which will be determined solely by an impartial, thoroughgoing scientific study of what the community actually needs.

A SMALL COMMUNITY HOSPITAL THAT MEETS A NEED

Cottage Remodeled and Enlarged for First Unit—Appeal to the Public Has Brought Response—Some Details of Administration

By S. A. LUTGEN, M. D., Wayne, Neb.

EVERY community should have a proper place to care for its sick, especially when they must undergo surgical operations. It lessens not only the risk to life, but also the expense to the patient—that is, it gives special care, the use of all modern conveniences, laundry (bed linens), and proper food for practically the same cost as a trained nurse alone in the home. This need has been apparent here in our little western college town of 3,000 inhabitants for some time, but whenever the need was voiced we were told that it was customary to take such patients to one of the neighboring cities, one sixty, the other one hundred miles away. It was not until one of our most prominent and dearly beloved citizens was stricken with acute appendicitis and rushed via auto to the city sixty miles away, only to find a ruptured appendix caused from the rough trip and eventually death, that the community really awakened to the need of a local hospital.

Fig. 1. Wayne Hospital. General view.

Steps were at once taken to organize a stock company for the purpose of building a hospital. The plan was meeting with great success until a damper was put on it by the doubts expressed by the other doctors that it would never pay. As I was doing considerable operating myself, opening our residence to a number of patients whose homes were wholly unsuitable, I decided to risk the venture myself. I owned a small cottage, practically new, and standing by itself near the State Normal School. It was 28 by 28 feet and on a lot 75 by 150 feet. I visited all the smaller hospitals available, studied the plans in THE MODERN HOSPITAL, and finally presented to the public the Wayne Hospital as is pictured in the accompanying illustration. The old building was extended 22 feet, making it 28 by 50 feet, with full basement and attic. As will be seen in the plan, a hall runs through its entire length, opening on a large porch in front and a small sun porch in the rear (east). The south side of the hall opens into the five private rooms, while on the north side we have the reception room, nurse's room, bath room, stairway, sterilizing room, and operating room. The entire building is finished in yellow pine trim, two-panel doors, oak floors, and tinted walls. Each room is furnished with white steel beds and bedside tables, white maple dresser and chairs, and bedside rug to match the wall. The operating room is white enamel and tile, has built-in instrument cases, and is heated by steam from a coil in the Round Oak furnace, No. 28, which heats the rest of the building. It is lighted with 25-45 watt lights arranged in square in the center of the ceiling. The sterilizing room has built-in enameled instrument cases and cupboards for dressings, gowns, etc.

Before the furniture arrived I had to move in articles from our home and borrow cots from the furniture store to care for three emergency cases. Two of these cases were accidents, and proved to

the public the good of such an institution. The doubters are wholly convinced by now of the feasibility of the plan, as we have had from 6 to 8 patients nearly all of the time, thus having to use all the rooms, the reception room, and two in a room at times, the nurses having to sleep on cots entirely. We have two nurses all the time, and call in others when more help is needed.

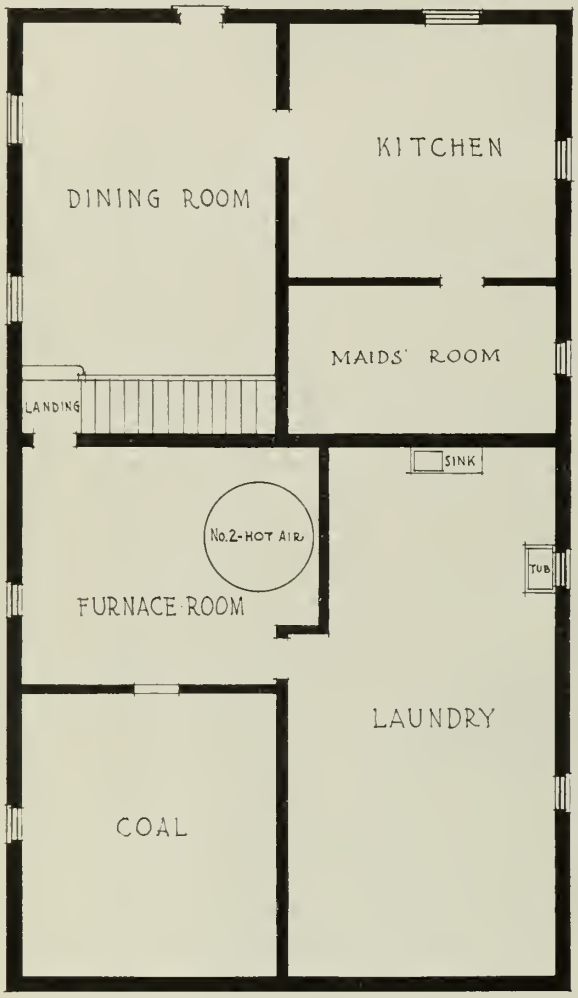

Fig. 2. Wayne Hospital. Basement plan.

We have purchased the block just south of where the hospital now stands, and will erect a large building there very soon. The lots are very desirable for our purpose, as they have beautiful, large trees and shrubbery. We will close the alley and retain the present building as a nurses' cottage, using the operating room for nose and throat work. In my estimation, there can be no mistake made in venturing such an institution if the physician or one of the local physicians does surgery himself. The people desire to keep their loved ones near home, where they can see them, and the patients want to stay where their friends and family can call daily.

The Wayne Hospital has been from the very start a paying proposition. It has had 73 major operations, 134 minor operations, and 8 cases for only medical care during its existence, and up to date there have been no deaths. Five physicians from surrounding towns have sent patients, and three of the eight from our home town. That others will follow stands to reason, as we are

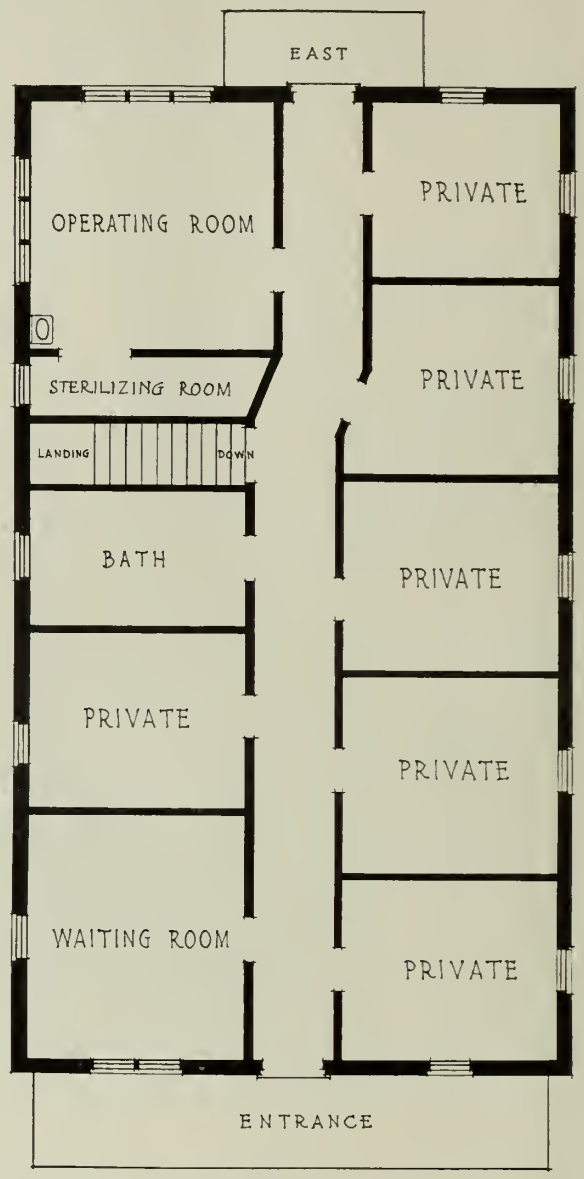

Fig. 3. Wayne Hospital. First floor plan.

treating all as we would be treated, have everything strictly modern, neat and clean, give the best service possible with only trained nurses employed, and, what is more, see to it that every patient goes away pleased and satisfied.

Driver's Nurses' Registry, Kansas City, Mo., has acquired a 70-room building, which it will equip for a hospital to be opened about February 1. The institution will be entirely under the control of the registry, no physician having any financial interest or any voice in the management. The house physician will be employed on a salary. Two main operating rooms and two rooms for minor operations will be provided. Mrs. Florence Driver Hoit is at the head of the registry.

THE SOCIOLOGICAL ASPECT OF THE TREATMENT OF ALCOHOLISM

Fallacy of the Belief That Alcoholism Is Hereditary—Help Effective Only for the Man Who Wants to Be Helped—Tobacco an Unfavorable Factor

By CHARLES B. TOWNS, Charles B. Towns Hospital, New York

THERE is no sick man who has had as little intelligent consideration shown him as the alcoholic, from the hospital, the medical or the sociological standpoint. He has been either damned for his vices or mourned over as a victim of some relentless fate; either coddled by friends or scolded by judges; and there has been poured into his ears the suggestion that alcoholism is a disease. In many instances those about him have been able to go back to the old family closet and haul out some alcoholic skeleton as the cause of his own drinking and as a "horrible example;" they have been able to load on him the belief that he inherited this vice from grandfather or great-grandfather or some other ancestor somewhere along the line who at one time or another took alcohol to excess.

Medical men have been largely responsible for making the alcoholic believe that alcoholism is a disease. Stop and think for a moment and you will see how absolutely absurd this is! The only extent to which a man can be alcoholically diseased is the extent to which he has been taking alcohol, in such quantities and with such regularity over a certain period that he has established a certain definite tolerance; and if he has been taking it in sufficient quantities, this tolerance would mean, in the end, that if he were suddenly deprived of his stimulant, delirium tremens and all of the unfavorable consequences that come out of that condition would result.

Now, delirium tremens is due to nothing more or less than alcoholic poisoning. If this man is medically unpoisoned, he cannot experience any such condition. Nor can the unpoisoned alcoholic have any physical or mental craving for alcohol. If he has been drinking moderately or periodically and the period of his present debauch is not too extended, it can be stopped without fear of any physical harm of any kind whatsoever. One of the most difficult ideas that I have to remove from the minds of alcoholics and their friends is this idea of inheritance. A man who has a poisoned father, a father whose system is thoroughly saturated with "booze" and tobacco, could and probably would inherit a defective nervous system. But he could not inherit a craving for drugs or drink. Get into the mind of the alcoholic just as soon as you can the fact that, no matter how much of alcoholic stimulants his ancestors may have drunk, it is impossible for him to inherit from them a craving for such.

The records of my hospital work show that where a patient with alcoholic history has been scientifically and medically treated for his habit, the definite removal of the craving for alcoholic stimulant is as effectual in his case as in the case of the patient who has no trace of alcoholic taint in his family. Further, I can show from our case records and clinical notes that in the cases in which such a patient through weakness relapses into taking stimulants, he never charges that the source of his weakness was a craving for them. The cause may have been psychic—business troubles, a quarrel with his wife or what not!—but it was not alcoholic craving as such.

Another important point is this: There is no such thing as "curing" a case of alcoholism. There is nothing on earth you can do to prevent any human being from taking up the use of alcohol again, if he wants to do so and will "go to it." There is no "cure;" and incidentally, one of the so-called alcoholic "cures" has abolished the word "cure" from its literature and now uses the word "treatment" instead. But this is since I began to treat alcoholism medically by modern hospital methods; so I feel that I am the man who has retired the word "cure" from business so far as it is connected with the treatment of alcoholics!

One of the several general classes of the near-alcoholic is that of the vagrant rich, while another is that of the vagrant poor. With the first class, money is no object; and so far as the cost of treatment goes, these people have no objection to relapsing again and again and being "treated" each time; and as for the second class, the vagrant poor, they have no financial means at all. But the man who is in a class of his own, who has lost self-control in the use of stimulants from work or worry or from some other equally effective cause, who makes his own terms at the hospital for his own treatment with money which he has himself earned—such a patient is a "preferred risk." He is the man we can really help because he wants to be helped.

Lack of occupation is the greatest destroyer of men, whether the man be with means or without means, and you cannot in the end expect to save either of these vagrant types—as I have called them—until successful occupation has been found

and responsibility in life has been created. As things go now, most alcoholics who receive medical treatment are left high and dry when the treatment is concluded. The man with means goes back to his old environment with nothing to do and falls back into old habits because they fit as comfortably as an old shoe. The man without means has already dissipated his resources and exhausted his credit before he realizes that drink is bad for him and that he must have medical help. He must have something to do; but any indiscriminate employment is not going to satisfy this man; and unless he is properly handled at this period you cannot hope to reclaim him. The man who has had a job and lost it on account of drink, but is perfectly willing to work again, would be a "preferred risk" of this class.

I always insist that the man who has no means, but is sent to me for treatment at the expense of somebody else, shall always pay for his treatment by some arrangement with his "backer;" that whenever it is possible he shall make the cost of his treatment a financial obligation and that when he begins to earn money, this money must by degrees be paid back to his friend. There is little good going to come out of believing that in trying to reclaim men of this type it is all-sufficient to run them through a medical mill and charge up to profit and loss whatever financial expense may be involved. You've got to go farther than that. You have not only got to *treat a patient*, but *deal with a man!* And if this isn't one of the big jobs for the American nation to tackle, I miss my guess! We have spent millions educating people to booze; how much are we willing to spend to show them how to live?

Most alcoholic patients need physical care and attention after their alcohol is eliminated. We find that, back of the taking of alcohol, there is usually a run-down, depleted nervous system, maybe with blood disease of some kind or with some other physical troubles. In every case there should be a most careful accounting of the whole physical man, and of the mental man as well. A man with an alcoholic history who is not yet physically able to work without feeling extreme fatigue should be carefully safeguarded. Unless he has genuinely made up his mind never to touch stimulants again, there is a possibility of relapse even although there would be no direct physical craving for alcoholic stimulants. Discouragement or weariness may "knock him out." Such patients should, if possible, avoid doing anything that would set up a nervous condition or that would for any reason make them feel they needed alcoholic stimulation.

I have found in handling this type of patient, that tobacco is one of the most unfavorable factors we have to contend with. This doesn't mean that every man who smokes is going to take to alcohol, but it does mean that a man who is predisposed to alcohol and who has an alcoholic history could not possibly do anything that would be so certain to establish a feeling of the need of alcoholic stimulant as to continue the use of tobacco. We try to change every man's mind who enters this hospital in regard to his use of tobacco, because in going over alcoholic histories for years back, we find that wherever we have been able to get a patient to give up his tobacco along with his alcohol—and the medical treatment which eliminates alcohol eliminates tobacco craving as well—we have always got a good case. I cannot now recall a relapse of any alcoholic patient who has given up his tobacco as well as his alcohol. To enforce this idea arbitrarily would be to create an impression of great hardship in the minds of the tobacco users who come to us. But to change a man's mind and get him to look on the use of tobacco as harmful establishes a mental condition which makes him feel he has not surrendered anything worth while and that he has won a big victory.

Now, as to the various classes of drinkers and the comparative possibilities of treating each of them successfully, I must in all frankness say that it has been my experience that the occasional drinker, the steady drinker, the social drinker or the still drinker—all these are practically in one class, as far as any reclamation is concerned. When the alcoholic patient is brought to my attention, one of the first things that enters my mind is whether or not the patient is worth while—whether or not there is anything to work with or we are going to have a big human cipher as the final result of our efforts. There are some of these alcoholics that none of us can ever do anything for. It is for this class only that any system of colonization should ever be permitted.

I am not a member of any organization of any kind, either religious or otherwise, that stands for prohibition. For that reason I am able to express myself as freely as I please. So I now want to put myself on record as saying the world would be better off if there was never another drop of alcoholic stimulant made, sold, administered or taken. I find only one class that doesn't agree with me, and that is composed of the distiller, the brewer, or the liquor dealer. It looks as if we are going to have world-wide prohibition; but unfortunately, as conditions now exist, the problem of dealing with the now-alcoholic is not going

to be solved merely by "prohibition." He is going to seek harmful stimulants in some way.

As every man who drinks to excess and is without a job for that reason is a social liability, I believe in starting a movement to save the drinking man worth while who still has a job. That means beginning with the employer and for the first time telling him what steps he ought to take when he finds one of his men has lost self-control from the use of alcoholic stimulant. I hope to create an interest among the social directors of big institutions that will enable them to do the best possible thing towards eliminating the alcoholic and alcoholic influences from among the employees of such corporations. There is no one greater economic waste among such corporations than the alcoholic waste. No employer is getting the best results from the alcoholic, whether he is wholly, or even partially, under the influence of alcohol or is merely experiencing the apparently slight effects of one drink.

What is needed is to make an intelligent disposition of the man who drinks. Start a campaign of education—not one of abuse, not one of penalization, not one that is going to create resentment, but a campaign of enlightenment. Then you are going to solve the problem among the better class of working men. The state and municipal authorities should deal with the alcoholic in a definite way. When they find a man who has an alcoholic history, a "drunk" or a "drinking man" who has been brought down and put out by alcohol, that man should be reclaimed, and it has been my experience, with few exceptions, that where the former employers of such a man are sure something definite has been done to put the man on his feet, they will give him a chance to make good.

Every able-bodied man who can work and won't work should be made to work; and the state and municipal authorities the country over should provide ways and means by which such men as these shall be forced to work and to work at something that is worth while. The only work that is worth while is the work by which a man profits financially. He is not going to work earnestly and honestly if he doesn't. If the state and municipal authorities could bring influence to bear on some of the heads of the leading industrial concerns and have them outline ways and means by which those men who now constitute human waste could be employed, it would mean the clearing up of the worst phase of this alcoholic situation in a very short time. Not only should these men be employed in work which would mean the making or manufacturing of something that was needed and was well worth while to the state—work which the man was also being reasonably paid for doing—but also there should be some way whereby those who had not been especially trained industrially could be taught some profitable trade.

The only way to begin to make the state and municipal authorities realize their responsibility fully in this matter is, so it seems to me, to pass such laws as shall for the first time require them to deal with this subject intelligently; to make the large municipalities establish each an alcoholic clearing-house; to make each state set aside one institution for the convenience of those who would not be eligible for treatment in the municipal institutions; to make an intelligent classification of all alcoholics and to outline to the different magistrates and police courts the proper course to pursue in dealing with alcoholics. The courts and the police should have definite instructions as to what disposition to make of this type of unfortunate. The wards of hospitals receiving such patients should in every instance avoid unnecessary colonization. There should be some means of identification of such cases in the public institutions and there should be a final disposition one way or another of the confirmed alcoholic. You will find, as I have pointed out in my previous articles, that the state and municipal authorities, with too few exceptions to mention, now have no concern whatever for the alcoholic patient. They don't know what on earth to do with him or for him—and they do it!

There is not going to be much satisfactory history written in dealing with the old alcoholic soak. Any progress toward real result on this subject is going to come from the younger class of human beings who do not know what the taste of an alcoholic drink means or personally what "drunk" means. I would like to see as a part of the curriculum of every public and private school in this country, enforced study of what drugs, alcohol, and tobacco really mean in their effects on the human system. I would not show any horrible pictures; I would just tell the plain story as it really is. The plain story is bad enough. Clean men and women who believe in the clean things of life should be the only ones eligible to teach such principles. Not until such education has been given will there be any real progress made in removing this curse.

There is no one greater waste of effort, time, and money than that of the charity organization societies which have to deal with the alcoholic problem in one way or another. There is less real intelligence displayed among them in trying to

solve some of the alcoholic problems that come before them than can possibly be excused. The friends of the individual are excusable in not knowing how to go about the best possible thing for the alcoholic; but organizations that have such problems before them daily, organizations that can check up the results of their dealing with the various problems coming before them have not, to my knowledge, improved in any way upon the old-time way of meeting this situation. The same conditions now exist in their dealing with this alcoholic problem that have existed as far back as we have any record. Those who believe that the paying of one or two weeks' room rent, providing an alcoholic's family with a few days' board, buying his children some needed clothes, exacting some promises from him as to his future behavior, is really "tackling" the alcoholic problem, are ninety-nine times out of a hundred promoting dissipation in the individual instead of really giving him some intelligent help. There is no greater economic problem for such organizations to take up and consider than the alcoholic one as it confronts them. I hope that they will soon begin a movement which will enable them to deal with its various phases with some degree of intelligence.

I cannot conclude this article without paying my respects to the federal Government in connection with this subject. I have been in position from time to time to observe the treatment accorded soldiers and sailors who have for any reason lost self-control from drink and drugs. A more heartless, cold-blooded, unreasonable lot for human beings never existed than in that dealt out as treatment by a system of court-martial! Nothing on earth is done to save the man that is worth while. Every step in such investigations is apparently taken with a view to destroy the man instead of to save him. There is meted out to him every possible penalty that could be inflicted that will destroy his self-respect, that will humiliate him to the very lowest possible depths; and he is never treated as a sick man. Nothing definite is done to give the soldier or sailor an honest chance to make good when he has made his mistake. If these unfortunates had the treatment and care that should be given them, if there could be a campaign of education among the men enlisted in the army and navy, what a difference there would be! The government prisons or insane asylums would have little to do. Where the man has made his mistake in the use of drink or drugs, if the first consideration were an intelligent one, taking proper medical and sociological means to reach the individual, the usual crops of the insane that have come out of this ignorance and carelessness would enormously lessen the commitments to government insane asylums.

If all who come in contact with the alcoholic would but realize that they are dealing with a sick man and that the alcoholic should be treated as such, that to be able to help him something definite must be done, that not only a complete physical change but a mental one as well must be brought about and that in most instances this change is only the beginning of help, they could in practically every instance carry the problem to a definite and successful solution.

I would like my medical friends to feel that they need not hesitate to call on me in connection with this problem. It is a never-ending subject; but I am sure there is something definite that can be done for practically any alcoholic who is worth while saving—something that will put an end to the problem of alcoholism so far as he is concerned.

PERIODICAL EXAMINATIONS NOW ROUTINE

New York Health Department Employees Find the Practice in Their Interest—Medical Advice Frequently Sought

For the past two years the New York City Department of Health has subjected its employees to an annual medical examination (optional in the case of older employees) in addition to the examination received on entrance to the department service. Male employees are examined by a male physician, female employees by a female physician. The physical record is not allowed to influence the efficiency rating of an employee. Antagonism toward the measure is said to have disappeared almost altogether, and some of the more enlightened employees, in whose cases more or less unsatisfactory conditions were discovered, have requested more frequent examinations. Up to the end of June, 1916, over 2,000 employees have been examined. Recommendations based on past experience are made in the Weekly Bulletin of the Department of Health as follows:

"Every employee, when absent from duty on account of illness, should be reexamined on return to duty. If absences are frequent, a reexamination should be made every three months, with a view to determining the cause of disability. Those who are below normal when first examined should be examined in six months' time.

"An employee desiring special medical advice should be made to feel that this is gladly given—that the object of the welfare division is to help keep the employees well, and that these medical attentions are not in any sense a philanthropy, but a very decided economy to the Health Department and to the taxpayer.

"When any particular kind of work is found to have an injurious effect upon the health of the employee, a change to some other kind of employment should be made.

"Periodical examinations can be made an important aid in correcting the alarming mortality of middle age in this country. If diseases are detected in their incipiency before impairment has become pronounced, and if the body is protected against possible injury by constant vigilance, a vast improvement would soon be effected.

"The example of the Health Department should be followed by all the City Departments, because of the economic value both to the employer and to the employed."

EMERGENCY HOSPITALS FOR INDUSTRIAL PLANTS

Evolution of the Idea—First Aid to the Injured a Saving to the Employer—Working of the Company Hospital

By L. L. WATTERS, M. D., New York

THE arguments in favor of the establishment of emergency hospitals in industrial plants have been so generally accepted during the past few years, that the necessity for repeating them hardly exists. The trend of industrial progress is more and more toward the partly voluntary and partly compulsory increase of the employer's interest in the employee's welfare. In addition to humanitarian considerations, there is a growing feeling among industrial managers that safeguarding the life and limb of the employee is a desirable thing from a purely business standpoint, particularly in those states in which special laws for the protection of employees have been passed. The use of so-called first-aid outfits for taking care of minor accidents has become so wide-spread that nearly every plant has one or more employees who are capable of intelligently taking care of minor injuries with excellent results. Even the smallest shop should maintain a small first-aid kit for this purpose.

Fig. 1 Keeping the little hurts from growing big. The greatest benefit of the industrial hospital is in treating minor accidents and preventing them from becoming serious cases. At Bush Terminal, Brooklyn, most of the work is of this preventive nature.

Some of the larger plants have found that the call for first aid warranted setting aside a special room for this purpose. At first this was in charge of an untrained employee who performed this work in addition to his usual work, but later it was found desirable in many cases to employ a competent nurse who devoted her entire time to the work. Firms which adopted this plan also soon discovered that this nurse could render valuable assistance in connection with the social welfare of employees, especially the women, and this was the beginning of social welfare work. By gradual transition, there developed the idea of a permanent company physician who at first spent only part of his time and later all of his time within the walls of the plant. Generally the activities of the first-aid service came to the point where the company physician was devoting his entire time to the general welfare of the company's employees. In time there developed the idea of rest rooms, hospital rooms, visits of the company's physician to employees and their families, the establishment of cooperative welfare leagues among the employees, and finally the building of special company hospitals.

In the case of concerns employing up to two or three hundred operatives, it is possible to install so-called first-aid cases for the purpose of caring for minor injuries. The smallest of these consists of an enameled steel box containing generally a pair of scissors, a pair of forceps, an antiseptic solution, sterilized gauze pads, bandages, absorbent cotton, and one or two basins. Some employee perfects himself in the employment of these simple first-aid requirements so that he is able to attend to minor injuries and give first-aid treatment in case of major injuries. These cases sell for from $3.50 to $25 each; some of them are very complete and all of them are supplied with very excellent and simple instructions. In plants having in the neighborhood of 500 employees, it is desirable to set aside a special room for this purpose, or at least to have a section screened off where attention may be given with some degree of privacy. Here the first-aid case is more elaborate in design, being generally in form of a hanging wall case or a white enameled steel case on legs containing all of the required articles in addition to a couple of chairs, a plain

Fig. 2. The dispensary at the factory of the Frantz Premier Company, Cleveland. It is a small room and the equipment is not costly, yet in the first few weeks it paid for itself by taking care of a case that might have been very serious had the patient been compelled to wait for an ambulance from the hospital.

table and the necessary bowls and trays. In plants with several thousand employees, employing the exclusive services of a nurse, the equipment is as above stated with such additions as may be deemed desirable, and if a portion of the employees are women or girls, a rest room is often fitted up with one or more cots or beds. In plants which employ a permanent physician, or which receive regular daily calls from a physician, it is customary to set off one or two rooms in which are installed the usual equipment to be found in the dispensary rooms of hospitals or in physicians' offices. This equipment generally consists of the following articles: a simple examining and operating table, one or two steel stools, one or two chairs, an irrigating stand, one or two bowl stands, an instrument table, a table for dressings, an instrument cabinet, a cabinet for instruments and supplies and a carrying stretcher. Generally, also, there is a small sterilizer for instruments and one for water. Such plants are accustomed to secure their sterilized dressings either from a hospital or a dealer, but where the demand is great, the installation of a dressing sterilizer is called for. Such an installation is capable of finally caring for all minor injuries without outside aid.

The company hospital idea has long prevailed in the case of mining and other plants situated at a distance from hospital facilities. Some of them have attained to distinction as being among the best regulated hospitals in this country. An excellent example is the Minnequa Hospital, maintained by the Colorado Fuel and Iron Company at Pueblo, the various hospitals of Phelps, Dodge & Co. in the southwest, and those of the various copper companies in the Great Lakes region. These hospitals are complete in every respect, and provide the means of taking care of patients for long periods, if necessary. The cost of maintenance is sometimes borne by the company, but more often by voluntary contributions on the part of the employees. It might be stated, however, that most companies favor the idea of confining the use of their hospitals to the treatment and care of accidents occurring in their own works, and prefer to send cases of sickness to other institutions.

The feeling on the part of industrial managers is that it is desirable from many standpoints that employees should be cared for as much as possible within the limits of the plant itself, and that many of the legal complications which often arise from accidents can be obviated and the employee likewise brought to feel a closer and a more permanent attachment to the plant thereby. The many possible dangers which have resulted from

Fig. 3. Hospital at Bush Terminal, New York. This hospital takes care of all the employees of over 200 tenants at the Terminal city and is equipped for handling even serious surgical cases.

the employment of outside surgical help in case of accident among employees of large concerns are too well known to experienced managers to be stated here. The excitement, interruption of work and confusion which is commonly attendant

upon the call of an ambulance to a plant undoubtedly results in a considerable loss of productive time, and many managers insist that they can show an actual saving to the plant, by reason of their ability to promptly return employees to work, which compensates for the expense involved.

Fig. 4. Dispensary at Nela Park, Cleveland. One of the most remarkable industrial centers in America is Nela Park, the main establishment of the national group of incandescent electric lamp manufactories. Here, in a group of buildings that resemble a university, are executive offices, research laboratories, engineering departments, and manufacturing plant. The dispensary is an essential factor of the service department's equipment.

These points can be well illustrated by taking a typical example of actual happenings in a plant both before and after the establishment of an emergency hospital. This company employed over five thousand men, and at first had an arrangement with a local private hospital to take care of its employees on a contract basis. This hospital was situated at a distance of about three miles from the plant.

A report comes to the superintendent that John Jones had had his hand caught between gears and crushed it; the cries of the man at the time of the accident bring employees from every part of the plant, who rush in more from curiosity than from either desire or ability to render assistance. This confusion generally continues even after the arrival of the foreman or superintendent, who telephones to the local hospital for an ambulance and then proceeds to send the men back to their work, but who retains some four or five men until the ambulance arrives; this generally requires from fifteen minutes to one hour. In the meantime the attention of the employees is still centered on the injured man and continues even after the spectacular arrival and departure of the ambulance, which attracts the attention of by-standers to the plant. At the hospital the injured man receives the attention of a house surgeon, and from this time he is outside of the control or supervision of anyone connected with the plant. It is very seldom that the desire of either the employee or the hospital authorities is to return this man to his work short of the longest possible period; the reason of the man and the hospital is obvious and, likewise, the expense to the company.

Of course these conditions are somewhat modified in states which have passed laws covering such happenings, but even then many of the circumstances mentioned continue to exist. Contrast this scene with conditions as they actually exist in this plant since it has established its own hospital with its own nurse and physicians. It is thoroughly understood in the shops that in case of an accident the men shall stay with their work except those in the immediate vicinity and who are able and necessary to render assistance. A foreman is instructed to notify the physician or nurse at once and the physician or nurse is generally at the place of the accident in less than five minutes. There are men who are regularly designated to carry a stretcher, which is at a convenient location, to the place of the accident and immediately remove the injured man to the room provided for that purpose. Here he receives the prompt and satisfactory attention of a competent physician who has the interest of the plant at heart and whose aim is to return the man to work with as little excitement and as little delay as possible. These scenes are typical, and serve to explain the conditions discussed.

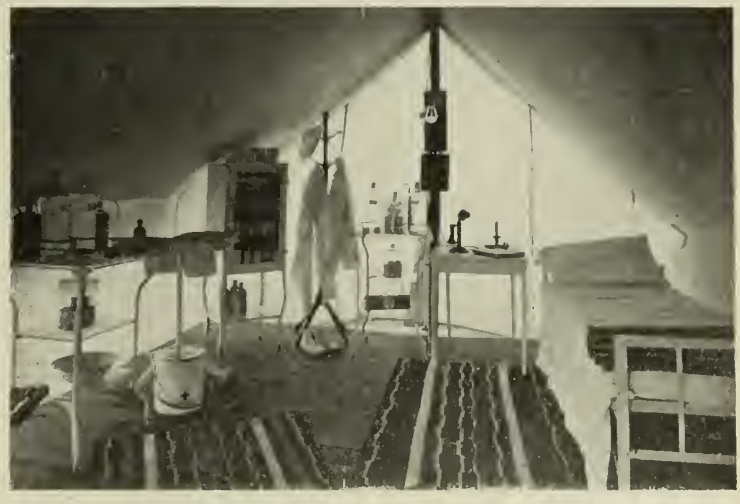

Fig. 5. Camp hospital at Association Island. This island, in Lake Ontario, is the summer meeting place of executive and sales forces of the incandescent electric lamp manufacturers. The camp hospital is complete in every detail.

THE SMALL COMMUNITY HOSPITAL—THE ORGANIZATION[1]

The Trustees and How Chosen—Mistakes to Avoid—The Administrative Offices—The Medical Staff—Principles Underlying Management of the Institution

By JOHN ALLAN HORNSBY, M. D.

PAPER VII

THE SMALL COMMUNITY HOSPITAL—ITS ORGANIZATION

THE organization of any hospital may be considered in three parts: (1) the trustees and the agencies that lead out from them as a connecting link between the institution and the community, (2) the administration, and (3) the medical staff, or, in the event that there is no staff, the medical men who care for the patients in the institution.

Perhaps the community as a whole must choose the trustees for its hospital, and, it may be by election. While we must all deplore the injection of politics into hospital work it will be necessary, in order to obtain a board of trustees likely to work in harmony and for the best interests of the hospital, for a very small group of people, or even one or two persons, to decide upon those best fitted for trusteeship, and after this decision has been made to try to get it carried out in any election that may be formally held. This procedure, which is a form of political caucus, is unavoidable because no board of trustees chosen haphazard, without previous conferences by a small group, in a public assemblage or at a public meeting, can be given that careful consideration that the conduct of so important an institution as the community hospital deserves. As a rule, a temporary board of trustees will already have been chosen for the raising of funds, the making of plans and the building of the hospital, and it may be that this temporary board will go over for the first year and that a plan of election of members will have been written into the constitution and by-laws of the institution that will provide for the annual election of a certain percentage of the trustees. Such a clause in the constitution should provide that not enough trustees shall be elected in any one or even two years to upset policies that have been agreed upon and found to work well by the first board: that is to say, if it shall be desired to have ten members of the board, it will be a good plan to provide for the election of two new members each year. For this purpose the first board will be divided into five parts, two of the members elected for one year, two of them for two years, and so on.

It has happened very frequently that a community or some influence in the community will become disgruntled with policies operating in the hospital and want to upset these policies; but it can also happen that these policies will have been decided on after very careful and intelligent consideration and it can happen that new members coming in, even elected by the influence of disgruntled citizens, will find after they have become familiar with the hospital that the policies that had given rise to dissatisfaction were wise and just and should be carried out. In such a case, if a majority of the board had been elected instead of only a few members, the majority might upset these wise policies to the great hurt of the institution and before the board had had time to see these measures at work. Trustees elected by disgruntled supporters of the institution have very frequently become the strongest supporters of policies against which they were sent in as trustees.

CHOICE OF BOARD MEMBERS

The first thing to think about in connection with the creation of a permanent board of trustees, and perhaps the most important thing, is the elimination of persons who will want or be able to use the hospital for their own private, selfish interests. Frequently some doctor will want his friends on the board with the intention to bring about conditions that will be favorable to him and his personal interests. To accede to this desire on the part of a medical man will be to invite disaster, because the most pernicious influence in any hospital is that of a physician who wants to use the institution for his private purposes as against the interests of all other physicians.

Another person to keep off the board is one connected with some commercial house that would obviously want to sell goods to the hospital. Sometimes this person will not be one of the heads of the commercial house, but perhaps a minor employee who has an idea that if he can get on the hospital board and bring the trade of the institution to the house with which he is con-

[1]This is the seventh in a series of papers by Dr. Hornsby on The Small Community Hospital, Its Funds, Its Planning, Its Architecture, Its Equipment, Its Organization, and Its Administration. Next month "The Hospital Employees, Including the Interns and Nurses."

nected it will become a distinct asset to him in his commercial and financial relations with the house.

If the board is selected before the hospital is built and before the site is purchased, it will frequently happen that some real estate man or property owner will want a place on the board in order to influence the selection of the site so that he may sell property to the hospital.

However sordid a consideration of these things may seem, experience throughout the country in the creation and operation of boards of trustees makes it necessary to eliminate people who have personal interests to serve.

The board member should be selected for some definite reason: (1) let us say, because he is a banker and will be a wise counselor in the financial operations of the institution; (2) at least one member should be thought of because of his knowledge of architecture and building operations; (3) one should be thought of because of his intimate knowledge of merchandising; (4) another because of his knowledge of the handling of people, in order that he may be a wise counselor concerning the employees and the adjustment of difficulties with them.

All the members should be selected because of their broad-mindedness and because of their ability to see things in a large perspective. It isn't the business of a board of trustees or any of its members to "run" the hospital in the details of its administration—that is for the superintendent and for his or her paid associates.

After the board is finally selected, it will be well to divide its members into working committees, or rather into advisory committees, because their work should always be advisory to the superintendent and the plan of operation should be for the superintendent to have access at all times to the chairmen of the various committees, for counsel and advice appertaining to things particularly coming within the jurisdiction of the committee. These committee members should have no power to give orders, else it will be quickly found that the superintendent is under the necessity to obey more than one master—which will be hazardous.

The board of trustees should meet sufficiently often to pass upon all questions of policy and along the lines of the broader aspects of administration; these meetings should be held at sufficiently short intervals for the superintendent to be able to bring his or her troubles to the board in session, in order that he or she may not have to take orders from individual members; and it should be understood that board meetings at stated intervals shall be a duty which the trustees are in bounden duty to respect and they should attend the meetings or get off the board and make way for others who can and will attend to the duties of trusteeship.

The success of a hospital, in very large measure, will depend on the character of the trustees, not because of the detail work that they will do, but because of their ability to judge of the work of their superintendent, and their capacity to refrain from meddling.

There is no particular reason why the board should consist of any special number of trustees. The condition in each community will guide in this matter, the only point being that no one should be a trustee of a hospital who has any personal interest to serve or who has not the time or the inclination to give attention to his duties. It will be found expedient and wise to have several women on the hospital board, but most women who have homes of their own and who are not familiar with the duties of trusteeship will be very likely to want to meddle with the domestic affairs of the institution. Such women should be kept off the board because they do not know hospital conditions; while they may be excellent buyers for their own homes and excellent housekeepers, they might be miserably poor judges of materials and fabrics best for institutional use, and even poorer judges as to domestic management.

THE SUPERINTENDENT

Although we talk about the want of standards in hospital management, some of the details of management are pretty well standardized. There is coming into existence a group of trained people for hospital superintendents, and the number is growing greater year by year, until now we have some pretty well-defined standards even for the selection of hospital superintendents; there are a few places in the country in which hospital superintendents are being carefully and painstakingly trained for definite careers in this work. Very frequently the trustees of small hospitals assume the attitude that their hospital is not large enough and that they cannot afford to pay a salary to justify their employing a trained man or woman. This is obviously a mistaken policy and is not warranted by experience or facts. An untrained person can be the most expensive item in the hospital management and cost more eventually than mistakes in any other direction. A good superintendent, even in a very small hospital, can save several times his or her salary by an intimate knowledge of hospital conditions and by familiarity with methods of buying and methods of using hospital commodities; moreover, an

untrained or improperly trained superintendent can play havoc with good service to the sick and thereby make the hospital so unpopular in the minds of the medical men in the community that they will be averse to sending their paying patients to the institution; whereas a properly trained superintendent will be able to do teamwork with the medical men, giving them what they want in the way of technic and service for their patients and thereby raising the standards of practice in the institution to such a point that the medical men of the community will make every exertion to get on the staff and to have their important patients go to that hospital. So any way one takes it, a properly trained superintendent who knows how to buy and how to use hospital property, and who knows how to serve the medical men whose patients he or she is caring for, will be the greatest asset the hospital can have, and such a superintendent, when employed, should be supported and let alone.

OTHER EMPLOYEES

Each hospital, small or large, will be a rule to itself as to the number of employees that it can advantageously use, and it will require the best tact and judgment and all the knowledge of a superintendent, coupled with wise counsel on the part of the members of the board, to distribute the work of the institution so that the smallest number of people will be able to do, not only the largest amount, but also the greatest variety of work. For instance, in the small hospital it will be impossible to think about employing an all-time radiographer, an all-time pharmacist, an all-time anesthetist and an all-time dietitian; and yet all these branches are of very great importance if the hospital is to give proper service to the sick under the orders of the physicians. The question then comes up, how can this be done? One hospital in the class we are now discussing had in the graduating class an exceptionally bright young woman of excellent preliminary training, who had developed great versatility in the course of her three years of training. She learned, among other things during her training, to conduct the pharmacy, and she did it well; she also spent a great deal of time in the laboratory under the direction of the pathologist who spent certain hours there, and she became a very good technician and was able at the time of her graduation to do most of the routine work of the laboratory. The same young woman also learned, during her rotation service as an operating room nurse, to give anesthetics and to give them well. After her graduation the board of trustees had the good sense to send this young woman away, paying her salary and expenses while she took work under good directors in pharmacy, in bacteriology and the technic of pathology, in the giving of anesthetics and in x-ray work. The hospital was small and there was not a great amount of work in any of these various branches to be done, but when this young woman returned at the end of eighteen months she became practically a "Jack of all trades" and was without question the most valuable asset that hospital had. There was a good consulting pharmacist on the staff; another member of the staff was an excellent radiographer and a good interpreter and his assistance was cheerfully given, and the men who had been trained during their internship in the giving of anesthetics were available to advise and help her in that field. That young woman is now drawing a handsome salary from a hospital whose resources are small, and she is giving a variety of service that would elsewhere and under other circumstances cost the institution very much more; the institution is doing, and doing well, a variety of work that is being neglected or indifferently done in most hospitals of even a considerably larger size. There is no good reason why the same principle should not be applied in any other small hospital; only the material at hand must be developed along lines profitable alike to the individual and to the institution.

There is no hospital so small that its expenditures for food and the service of food to its patients fail to justify the employment of a woman trained in dietetics, and in a small institution the same woman could easily be matron of the institution and look after the housekeeping, the laundry and the general kitchen.

The time has gone by when it is reasonable to expect nurses or interns to act as menials. Aside from fairness and justice to these young people, it is positively wasteful of their efforts and capabilities to put them at minor occupations. In other words, their service is worth more in the field which they are expected to cover than it can possibly be in fields where the lowest type of paid help can efficiently perform the work. Many hospitals that now find themselves unable to attract young women to the training school and young men into internship have only themselves to blame. Also, many hospitals that are having to use high-salaried graduate nurses where they might be using pupils for the performance of the nursing service, and that are having to pay resident physicians where unpaid interns might do the work quite as well, have brought this situa-

tion upon themselves by their short-sighted attempts to use the pupil nurses as maids-of-all-work and their interns as orderlies and scrubmen.

It would be utterly impossible to attempt to lay down any definite rules as to the number of employees compared with the number of patients in a hospital; that relationship will depend so greatly on the conveniences of construction of the building and on the management of the work. It can only be said that it will never do in even the smallest hospital to let the premises go unclean, the linens unlaundered and the patients uncared for. This is merely on the basis of financial returns, to say nothing of the moral issues at stake. A hospital which is unclean and whose service is poor will not attract funds, and the hospital which is clean, whose service to its sick is of a high order, and whose trustees know their business—the business for which they were really elected—need never be without sufficient funds in any community in this country. People who have brains enough to own money and to carry responsibility are learning too much about the value of a community hospital, even for their own purposes and for the purposes of their families and friends, not to be far-sighted enough to be willing to make proper contributions for its support; but they will not give to a hospital that they do not like and that is not rendering good service to the sick.

THE MEDICAL STAFF

In considering the medical staff of a small hospital, we are treading on debatable ground, a ground which is as yet uncharted, and on which the roads are only faintly marked and where are no highways used by all the travelers. Not even the medical profession is agreed on the proposition that every hospital, no matter what its size, should have a definite or closed staff, and in many individual cases there is no doubt that a closed staff, as we know it, would restrict the activities of the institution, interfere with its income and limit its service to the sick.

But as a broad proposition there ought to be a closed staff in every hospital, large or small; by "closed staff" we mean a group of physicians selected by the board of trustees whose aggregate duty it is to see that proper technic in the various medical services is established and that the medical and surgical work is properly done. When it is possible to attain such a group in a hospital, upon it should also devolve the duty of passing upon the qualifications of outside physicians who may be permitted to bring their private patients to the institution. Usually medical men will not be selfish in this regard; they will not wish to keep out qualified medical men, and as a rule, such a staff in the aggregate will be a safe guide to the superintendent as to the elimination of any physician in the community who is not believed to be capable of work standardizable in the community's hospital. It is one of the difficult tasks of the board of trustees to say who may or may not do surgical operations in the hospital; as a rule, trustees are laymen and they do not know surgical technic. Even if they were present in the operating room, they would be incapable of passing on the qualifications of a surgeon or an obstetrician, and they are thrown back of necessity on their own group of medical men for guidance in such a matter.

The superintendent of the hospital, no matter whether he be a layman, a physician, or a trained nurse, will be pretty apt to be closely in touch with the qualifications of the medical men in the community and he or she will be able to obtain intimate appraisal of the qualifications of outside medical men from his or her association with members of the staff. These men will tell the superintendent things in confidence, whereas they would not want to go on record before a board of trustees; and it then becomes the unpleasant duty of the superintendent to bear the brunt of responsibility in withdrawing the facilities of the hospital from physicians who are regarded as likely to do work of a character that the hospital cannot stand for.

OPEN-DOOR HOSPITAL STAFFS

A great many hospitals have had some experiences that make them very loath to attempt the conduct of a hospital under a closed staff. Most of these experiences have to do with baneful influences operating in the staffs of their institutions; and a good many superintendents share this feeling, and for the same reason. But if a hospital undertakes the conduct of its business without a responsible staff upon which to lean, it becomes the imperative duty of somebody connected with the institution to accept responsibility for the character of the medical and surgical work done there. Small hospitals, unfortunately, cannot afford, or at least think they cannot afford, to have superintendents with medical training and no other person is qualified to direct the practice of medicine in any institution; the open-door hospital with an untrained superintendent and with a lay board of trustees must have an intolerable situation and no good work can be expected in such an institution.

The best course for a small hospital whose trustees do not want a closed staff is to have at least an advisory staff, a group of men who can be counted on to see that the medical and surgical work is of a good quality and to see that proper technic is instituted and enforced. Almost every community hospital will have to care for a certain number of free patients. These patients may be paid for by the municipality, by the county, or by some social or benevolent organization, but they will be regarded as what we call "service" patients in the institution and there will be no medical fees connected with their care. As a rule, medical men are not going to take free care of patients in a hospital unless they have a *quid pro quo* in the shape of a staff appointment, or a title, or some influence in the institution that will give them a better standing in the community and that will give them a broader opportunity for experience and practice.

So, taking the whole problem as it must exist in every institution, it is necessary for the administrative forces to rely upon and be guided by one or more medical men concerning the medical and surgical work. They may be called a closed staff or an advisory board of doctors, or it may be the private physician or an influential member of the board of trustees. The result will be the same except that where the connection is not publicly expressed and recognized in an official way the influence is likely to be insidious and harmful rather than beneficial.

THE DIVISION OF SERVICE

No matter how small the hospital or how limited its various services, there ought to be some medical organization or some medical man to supervise and direct the activities of the various services. Call these men chiefs of service, or accept their service without a title; the result must be the same if the conduct of the institution is to be on a high plane. If the institution is large enough to afford work in any service for more than one man a sufficient number of men should be appointed to do that work. For instance, if there is sufficient surgical work to justify more than one man to be associated with it, more than one should be appointed, but one of these should be the chief of the service. He need not be an autocrat, but he should be the member of that service to whom the superintendent and the board may look for confidence and guidance. He should see to it that a proper technic is observed in the operating rooms and in the dressing rooms and in the admission department. He should see that the sterilization is accurate and adequate; he should see that there are rules for the guidance of the nurses and others doing business in the department. The superintendent and the board should rely upon him for advice regarding new instruments and appliances. If it transpired eventually that this chief of service is not attending to his business and is not meeting the responsibility that goes with his office, he should be asked to relinquish it and someone else should be appointed who will attend to it.

It is a difficult thing always to get the members of the medical staff to create rules for the government of their various services. In such a case the superintendent of the hospital should secure rules that prevail in other institutions of like character and offer them as a framework upon which the staff of the hospital may build rules more to its own liking and that will come nearer to meeting its needs. Such rules, when made, should be offered by the service staff, approved by the staff as a whole, and put up to the board of trustees by the superintendent for the board's final approval. When this is done, the superintendent can always fall back on the creation of these rules under the orders of the board of trustees and insist upon their obedience by the service men. Unless the board has approved them, the service men will always feel at liberty to break them when occasion seems to require.

This paper makes no attempt to go into details of organization; it merely suggests some fundamental principles which every board and every medical man in any hospital will be called upon to face and to agree upon. It may be added that probably the most disturbing situation in a hospital, and one calculated to destroy discipline and order and prevent coordination of effort is lack of definite purposes, definite fixing of responsibility. Too often trustees avoid making definite decisions for fear of stepping on someone's toes, or hurting someone's pride. This indecision makes friction, serves to lessen the authority of the superintendent, and invariably makes for poor service.

When you try to preach the doctrine of a sanitary town, you are greeted with objection and a most resentful frown, and if you talk of science you are very apt to strike the very forceful comment, "I never heard the like," for every new improvement is greeted with a roar if it happens to be something that "they never done before."—Illinois Health News.

A $50,000 building for the Aiken Hospital, a new corporation at Aiken, S. C., is nearing completion. Both winter colonists and permanent residents contributed to the building fund, the largest single donor being William K. Vanderbilt.

WHY FUMIGATION IS INEFFECTIVE

Necessary Technic Not Followed and Too Little of Fumigant Used—The Remedy

BY C. E. WARD, M. D.,
Assistant Visiting Surgeon, St. Alexis Hospital, Cleveland, Ohio.

Fumigation as practiced today in many hospitals and institutions is not only ineffective, but also, in reality, a waste of time, irrespective of the enormous amount of money literally thrown away in the use of various materials which are absolutely valueless for fumigation purposes. This waste in itself would be sufficient ground for complaint; in addition, consider the great injustice to our patients and operating surgeons.

The modern hospital of today is properly bending every effort toward the efficient training of the nurse and the proper care of the sick; yet it is the experience of many physicians that the average nurse knows practically nothing as to the importance of fumigation, the proper method to be employed, or the merit of the various fumigating substances in use. It is the duty of every hospital training school superintendent to insist on the thorough instruction of the nurse in the methods of fumigating a room. The inadequate methods now in use in many hospitals, which simply offer a false sense of security, should be abandoned; it would be infinitely better to rely on soap and water and fresh air. If the operating surgeon were informed as to the fumigation of the surgery in some hospitals after a pus case, he would be very reluctant to operate in a clean case in the same institution.

Many articles have been written on the subject of fumigation, and its discontinuance has been advised, washing and fresh air being advocated in its stead. I am in hearty accord with that view if the fumigation of a room is to be done in a haphazard manner. After considerable investigation I find that rooms in many hospitals are fumigated—or said to be fumigated—through the employment of one of several very ineffectual methods:

1. Soaking cloths in formaldehyd solution; letting them dry in the room.
2. Spraying about ¼ ounce formaldehyd solution with an atomizer.
3. Boiling formaldehyd solution over an alcohol flame.
4. The use of sulphur is also employed to some extent.

I find also that many rooms are not fumigated at all after a pus case or one of contagious disease; the bed linen is simply changed, and the room is ready for the next patient. In some institutions various kinds of candles are used, the general impression being that one candle is sufficient; this is a grave mistake, as many candles are required to fumigate 1,000 cubic feet of space. The one agent which has stood the test is formaldehyd, and a sufficient amount of this should be used to secure the sure effect; otherwise it should not be used at all.

Thorough fumigation is costly; if worth doing at all, it should be done properly. To fumigate a room properly, windows, doors, and spaces around radiators, etc., should be sealed with adhesive plaster or gummed paper; blankets, spreads, rugs, etc., should be loosened and laid over chairs. A large pail should then be placed in the center of the room, into which should be poured 1 pint of formaldehyd to each 1,000 cubic feet of space. Should the dimensions of the room be 20 by 20 by 10, 4 pints of formaldehyd are required. To each pint of formaldehyd ½ pound of potassium permanganate should be added. After this is done, the operator should quickly leave and seal the room. It is advisable that the room remain sealed for at least eight hours. Bacteriological tests demonstrate that this method may be depended on—the potassium permanganate as the agent will liberate the formaldehyd gas, thus accomplishing a perfect fumigation.

Formaldehyd solution is in itself valueless; it is the contained gas which, when liberated, kills organisms; by this method fire danger is avoided, which is always present with the use of alcohol lamps or candles.

Potassium permanganate is now very expensive—about $3 per pound—but other chemical agents, superior to permanganate, are in the market at about one-tenth its cost. While these agents can be used successfully in expelling the gas in formaldehyd, they have no other permanganate characteristics and should be used only for fumigation purposes.

Many contagious diseases have been contracted in institutions to the wonderment of those in authority. The answer is imperfect fumigation, or none at all.

In conclusion, if fumigation is an important essential in the hospital—and most of us are in accord as to this—we owe it to our patients and our consciences to employ the method which will really fumigate.

Standards Established by the New York After-Care Committee for Clinics Giving After-Care Treatment to Poliomyelitis Cases

The New York Committee on After-Care of Infantile Paralysis has raised the larger part of a fund of $250,000, to be expended through various cooperating agencies, and has excellent prospects of completing it finally. At the suggestion of the Committee on Public Health of the New York Academy of Medicine, it was decided that aid should be rendered only to those dispensaries which maintain approved standards of after-care. On request of the After-Care Committee, the Associated Out-patient Clinics agreed to certify the existence or nonexistence of such standards in any given dispensary. The Committee on Public Health, consisting of Dr. L. Emmett Holt, Dr. Virgil P. Gibney, and Dr. Charles L. Dana, has defined these standards of equipment and organization as follows:

For a three-hour clinic (assuming that the mothers assist in dressing, rubbing, etc.):

PERSONAL EQUIPMENT

2 orthopedists.
1 neurologist.
1 electrotherapeutist.
1 nurse.
3 masseurs and instructors in muscle-training.
1 record clerk.
2 visiting nurses for treatment and observation.
1 brace-maker (mechanic).

The lay members of this staff (9) may be used in two institutions, giving four hours to each, one having a morning and the other an afternoon session.

MATERIAL EQUIPMENT

Suitable waiting and dressing rooms.

Suitable examining and treatment rooms, containing tables for giving massage, electrotherapy, instructions in muscle reeducation, etc.

Electric apparatus (transmitting faradic, galvanic, and sinusoidal currents).

Testing and measuring apparatus.

Filing cabinets.

Facilities for warm baths, x-ray examinations, use of Zander apparatus, furnishing braces, and consultation with pediatrist and surgeon.

Dr. E. H. Bullock, of Edina, Mo., has succeeded Dr. W. L. Whittington as superintendent of the State Hospital No. 2 at St. Joseph, Mo.

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 34.

Land Values and Hospitals

From all over the country come complaints that trustees of new hospitals are finding it increasingly hard to obtain the necessary property consents for the erection of institutions for the care of the sick. "The neighbors do not want a hospital near them," and "Adjoining property owners say a hospital will decrease the value of their land," are the reasons given, and consents are difficult or impossible to obtain.

One of the latest and perhaps the most aggravated case is in the city of Portland, Ore., where the trustees of a tuberculosis hospital found it absolutely impossible to obtain property consents for the construction of a very much needed institution; and when the city council intervened to help the trustees by giving a permit for the building over the heads of adjoining property owners, the matter was taken into court and the fight became so bitter that the trustees finally had to decline the permit granted by the city and the institution is now without a location.

THE MODERN HOSPITAL has been asked frequently whether or not the location of a hospital in a neighborhood really did hurt land values and whether or not the protests of neighbors were justified, on the score of dangers of infection from the hospital to adjacent residents. There are many examples in many parts of the country to show, not only that hospitals do not injure adjoining property, but also that the location of modern hospitals serves in every case to increase the value of nearby property. Examples to this effect could be cited without limit.

And as for the dangers of infection to nearby residents, that is ridiculous. Modern hospitals do not scatter infections all over the neighborhood; indeed, we know now that infections are not airborne, but come from direct contact, and hence it is impossible for a modern hospital to be the source of cross infections to the well people out in the community.

On the contrary, the absence of a hospital in a community and in the neighborhood is a most flagrant cause of infections passing from the sick to the well. If we had plenty of tuberculosis institutions to which those suffering from that disease could go, we would not have active tuberculosis sufferers riding on the street cars beside us and coughing their virulent emanations into our faces. If we had well-ordered institutions for the care of venereal diseases, we would not have open syphilitic sores infecting drinking cups and towels and hand-rails; these patients would go to the institutions and be cured at least of the active process. If we had institutions for the acute communicable diseases, we would not be harboring diphtheria, scarlet fever, and the other infections of childhood in the family homes and the well members of the family, perhaps already exposed and in the incubation stage of the disease, rubbing against well children and other receptive persons on the street cars, in the schools, and wherever people are assembled.

The objection of property owners to the location of a hospital near them is a relic of a period long since gone by—a period when we did not know the cause, the course, and the source of communication of disease; it harks back to a time when the hospital was a place reeking in foul odors, and its disgusting horrors were only emphasized by the use of ill-smelling antiseptics and deodorizers.

The hospital of today is a place to which well people like to go. It is a place that brings business into a neighborhood; it is a place frequented by well-dressed ladies and gentlemen, where flowers and "goodies" of all kinds are constantly being sent in to patients. Urine-stained mattresses are no longer hung out the windows or on balcony rails; cripples on crutches and patients in wheel chairs no longer mar the beauty of the neighborhood. Flowers grow in the hospital yards; there are trees and shrubs and well-kept pavements all about it, and almost uniformly the hospital is the

best-kept and most beautiful place in the neighborhood.

The Superintendent and the Salesman

The underlying reason for the existence of the hospital is the care and cure of the sick and injured. The only product of the hospital is health. The material it works with is human, doctors, nurses, and the necessary people to wait upon these, and to keep the place clean in consonance with the demands of modern medicine. These human elements need to be supplemented by a vast quantity and a great variety of commodities, such as furniture, food, medical and surgical supplies, fuel, light, and so on to infinity.

The superintendent of the institution realizes that his or her duty is to keep in close touch with the agencies that the doctors must employ if the service to them is to be of a high order, because he or she is responsible for the efficiency of that service. We may readily see, therefore, that any call that keeps the superintendent away from the working parts of the institution must be regarded as an interruption, and an interference with his or her duty.

But it is necessary that the hospital have abundant supplies, and these must be bought by someone. The superintendent being charged with the financial management, as well as with the care of patients, must buy what is needed; and in order to buy judiciously, he or she must be informed as to the state of the markets. But buying and selling goods and studying markets is a vast business in itself, and one who is to keep posted must give practically all his time to that business, without other and more imperative cares.

For all these reasons hospital superintendents more than welcome any aid they can get that will lighten the burdens of buying.

Many salesmen claim that they are unable to see the superintendent when they visit the institution, and often they report back to their houses that they have no "stand-in." But there are other salesmen who visit those same institutions and who do have a sufficient "stand-in" to see the superintendent whenever they go there.

But there is no mystery in this state of things. Hospitals do not buy Protestant gauze or Catholic canned fruit. They do not bargain for Jewish furniture or for Gentile soap.

The whole difference in the reception of those two salesmen lies in their own methods. The unwise man, and the shortsighted one, the one without experience in selling to institutions, goes there in the morning, when the superintendent, and, for that matter, every living soul under the roof, is more than busy with the needs of patients and their doctors. If he is so unfortunate as to reach the superintendent at such a time, he offers his wares as the best of their kind and the cheapest without reference to the particular needs of the institution, and wholly without intimate knowledge of hospital conditions and the special problems connected with those conditions.

The other salesman goes there in the afternoon, when things have quieted down and when the superintendent has time to breathe. He talks about his wares, but he does so from the viewpoint of the well informed, both as to his own business and as to that of the hospital. He gives the superintendent many useful hints about the field he is representing, talks about the trade in general, and about probable rises or falls in the market, and the reasons. Often he can tell about what other hospitals are doing in his field, and how and why they bought this or that. In short, his visit has been a pleasure and a profit to the superintendent, who can judge that this salesman, by reason of his intimate knowledge of his own and the institution's business, can relieve the superintendent of a vast amount of "shopping" and thus give him all the more time to attend to things he feels are more important. The superintendent will try out such a salesman, and will "check up" the tips he has given; if the salesman is found to have been honest and fair, he will thenceforth be a welcome visitor and not only will have a "stand-in," but also will sell goods to that hospital, often over the head of a man who has better goods at a lower price, but who has not made himself familiar with hospital methods and who does not know how to "stand in."

This is the whole mystery of selling to hospitals.

Must the Children's Bureau Be Crippled?

Newspaper reports from Washington advise us that Congress threatens to cut down the appropriation for the Children's Bureau in revenge for the activities of Miss Julia Lathrop and her associates in the bureau, in connection with the recent passage of the child labor law. It seems impossible that this report can be true, but many things that politicians do seem impossible to the rest of us, and it could easily happen that the slave-drivers of childhood, most of whom are on the Atlantic seaboard of the south, would attempt to perpetuate a system that now has slight footing in this country.

Not long since the writer of this editorial was in Birmingham, Ala., where the most brazen violations of the sacred rights of childhood are rou-

tine practice in the community. One evening we passed along a street where workers in a large factory came and went; it was bedtime for most people, and yet there were in the tired crowds going to their homes many little children with pinched faces, haggard eyes, and starved bodies, dragging themselves along after a day's work that had begun at eight o'clock in the morning and was now ending long after nine at night. Some of these little people could not have been more than eight or nine years of age and many of them looked under six.

Let it be known to our members of Congress that one of those now demanding revenge on the Children's Bureau by cutting down its appropriation is the master of the factory where these poor, starved little creatures were working; and let it be known to the members of Congress and to the President if need be, that the Children's Bureau is worth more than the "pork barrel" to the people of this country who are becoming educated along the lines of good health, which in a final analysis means child health. And let us have it known to these lawgivers that the country is in no mood to dispense with any of the activities of the Children's Bureau. We know what that bureau has done and is doing; its influence for good is far-reaching; its activities have established a leadership on new paths where formerly we were without a guide. Let it be known that the people of this country do not propose to have the slave-drivers of childhood take revenge on the Children's Bureau. The passage of the child labor law marks only the beginning of the work which the country has for the Children's Bureau to do.

Occupational Diseases and the Physician

An eminent physician who is also a very wise man (the one does not invariably connote the other) has pointed out the shortsightedness of ignoring "foregrounds and backgrounds" in medical work. "Our patients shoot by us like comets," he says, "crossing for a moment our field of vision, then passing out into oblivion. At the end of hundreds of hospital records one can read the words 'Discharged well,' and the eminent surgeon figuring up his 'successes' often counts as such all who have left the hospital well and never been heard from. But peer into the background a little, follow up these cases for a few months or years, and you will often find that 'the last state of that man was worse than the first.'" In other words, too much of our best medical and surgical effort is wasted, because it does not touch the cause—the real, utimate cause—of the patient's condition. The disease in the patient's body is cured for the time, to be sure, but the roots of his disease, which are not in him, but in his social, economic, moral, or spiritual background, remain untouched.

It is therefore most gratifying that we are beginning to pay increased attention in this country to the occupational background of disease. Elsewhere in this issue we note the opening of two important new clinics for occupational diseases, one in connection with Rush Medical College, Chicago, and the other under the auspices of Union Hospital, New York. We also review in this issue an important new book, "Diseases of Occupation and Vocational Hygiene," by Kober and Hanson, which comes in season to fill very much the same place in this country that is occupied in Great Britain by Sir Thomas Oliver's "Dangerous Trades." Such work as this helps to add a much-needed element to our professional consciousness. In the words of the wise physician whom we quoted above:

"A man is not flat like a card. We cannot get the whole of him spread out upon our retina at once. The bit of him which is recorded in the history of his aches, his jumps, and his weaknesses is built into the rest of his life and character like a stone in an arch. To change any part of him appreciably we must change the whole. As well might one try to pick up a man's shadow and carry it away as to treat his physical ills by themselves without knowledge of the habits that so often help to make him sick and the character of which these habits are the fruit."

"The High Cost—"

Nothing so conduces to extravagance as a knowledge that there is plenty of money. This truism holds good in every walk of life—it is merely one of the weaknesses of human nature. In connection with hospital work, one is sometimes tempted to wonder if the purchase of commodities in large quantities for the sake of lower prices is always wise, because, when everyone knows that "there is plenty on hand," waste is almost sure to follow. These thoughts occur on perusal of Dr. Fowler's valuable contribution, published elsewhere in this issue, on economies practiced in the Louisville City Hospital. Dr. Fowler does not claim to have discovered any new methods of economizing, but his paper is more than timely, because every hospital is confronted with "war prices," and Dr. Fowler has pointed out the cure.

THE INSTITUTION ATHLETIC FIELD

Its Uses by Patients, Employees, and Especially by Visiting Teams at the White Plains Convalescent Hospital of the Burke Foundation

BY W. E. WRIGHT,
Assistant Superintendent Burke Foundation for Convalescents, White Plains, N. Y.

The first ground plans of country institutions for convalescents, children, the sanatorium groups, the insane, the indigent, etc., do not usually provide for the athletic field, and most frequently construction goes forward along lines that eliminate the possibility of suitable provision for outdoor recreation. Later the need is appreciated, and may then be gratified only at large expense, and often unsatisfactorily. In visiting two new large country institutions recently I happened to find the superintendents out on the slopes trying to lay out playfields in situations that

Fig. 1. Baseball game—patients vs. employees. Audience but partly shown.

must always lack attractiveness, ready access, efficiency, and easy upkeep. With land area running into acres, there are few ground plan problems which will not admit of a fairly level field, harmonizing with the general scheme. Including it at the outset with the building requirements is the important action.

Upwards of four acres are required for a first-class baseball field, but much less—even under two—may serve well with favoring banks, etc. Given a good infield, the best of teams will accept sloping and restricted outfield

Fig. 2. Patients preparing "outfield" in June (note men and women working together).

conditions. All other feasible exercises and games will fit upon the ball-ground or its borders. Football, tennis, quoits, the Italian ground-bowls, croquet, shot and hammer, medicine ball, gala-day races and contests, military drill, open-air setting-up exercises, band music, parades and fireworks, motion pictures, short-course golf, and the various winter sports, including skating by flooding—this list will partially indicate the various uses of the plot.

But the field affects the institutional life more deeply than these would suggest. Its very presence is a constant suggestion-treatment—an urge to youth-strength memories, to right posture and breathing, hopefulness, teamwork, etc. Employees and inmates here acquire wholesome mutual understandings. Play-therapy in certain classes of patients is of much value—it must often precede the so essential work-therapy—and outdoor play is frequently the entering wedge of uplift, especially in borderline nerve and mental states. Women, too, come into considerable use of the field.

Fig. 3. A golf match "gallery."

There is a constant preachment to *take part* in games, rather than look on. This is well, but is a fractional truth that becomes almost untruth. Ninety percent of well and ill persons will perforce always be onlookers. Watching play is a valuable kind of recreation. If the results could be measured, the onlookers would show larger aggregate gains than the players. This good to the gallery, always so widely distributed, is a much forgotten and underestimated product of the playfield. With us, patients and employees are constantly induced to use our extensive athletic grounds in a variety of ways, through organiza-

Fig. 4. County League football game on Burke Field.

tion and skilled direction, but the "gallery" is our first thought for reasons above indicated.

The prevalent method of making up institution teams for competition out of employees, given more or less sinecures for the purpose, presents obvious disadvantages. A different way here has given high values. We have made our field so good and offered such facilities (as for dressing rooms, transportation, charging admission to outsiders if desired, etc.), that our city and county high schools and leagues and organizations are keen to come to us with their high-class baseball, football, fielddays, etc., throughout the open season. Their frequent practice and coaching proves as entertaining as the final games. The public comes in, and over a thousand persons watch an event.

GETTING NEARER TO COST ACCOUNTING

Cleveland Hospital Council Submits Form of Annual Report by Which Work of Hospitals May Be Compared

The Cleveland Hospital Council has made substantial progress in outlining a form of annual report for its members, the hospitals of Cleveland. Dr. Warner's able paper on "Hospital Accounting and Finances," read before the Philadelphia meeting and published in the December issue of THE MODERN HOSPITAL, was so enthusiastically received that a committee was appointed to continue the work. In the meantime the Cleveland Council, of which Dr. Warner is a member, has been working along the same lines, and Dr. Warner asks that the council's printed report blank be published as supplementary to the paper which he prepared.

CLEVELAND HOSPITAL COUNCIL—ANNUAL REPORT

Report of .....
(Corporate name of institution)

For the fiscal year.....to.....

NOTE CAREFULLY

Please return this report by.....to the Cleveland Hospital Council, 308 Anisfield Building, Cleveland, Ohio.

A HOSPITAL PATIENT is defined as a person receiving continued medical and nursing attention, who occupies a listed hospital bed and remains not less than twenty-four hours. Persons giving regular labor for their board should not be included in hospital figures, except when admitted to the hospital as patients, and the cost of their care should not be included in expenses for hospital patients. WAITING MATERNITY PATIENTS, INFANTS, CHILDREN, occupying hospital beds and receiving continued medical and nursing care, should be included. The DAILY CENSUS REPORT for the previous twenty-four hours should be taken at midnight.

The DAYS OF TREATMENT GIVEN should be obtained as follows: All hospital patients as defined above, treated for any part of the previous twenty-four hours, should be included in this report. The total number of such patients should be figured as the days of treatment given on that day.

OUT-PATIENT WORK OF ALL KINDS, and the total cost and receipts for the same, should be separated from hospital figures and reported under the proper headings. Otherwise the figures for both hospital and out-patient work will be incorrect and misleading.

WORK DONE

Hospital patients (See above notes)	Number of patients	Number of days of treatment	Amount paid to hospital
1. Pay patients (x)			
2. Part-pay patients (y)			
3. Free patients (z)			
4. Public charges (Accepted by county, city, or township)			
5. Totals			

(x) PAY PATIENTS are those for whom at least the cost of their care is paid. (y) PART-PAY PATIENTS are those for whom only part of the cost of their care is paid. (z) FREE PATIENTS are those for whose care nothing is paid. Uncollectible bills for hospital service should not be included here as free patients or free days of treatment, but in line 52.

DISPENSARY PATIENTS AND EMERGENCY OR ACCIDENT PATIENTS remaining in the hospital less than twenty-four hours should be reported separately and not included in the above.

6. DISPENSARY PATIENTS:
   New patients_____; Revisits_____;
   Total visits or treatments.....
   (New patients are those who have not applied before during fiscal year at least. New Patients plus Revisits equal Total Visits or Treatments.)
7. ACCIDENT AND EMERGENCY PATIENTS: Number treated.....
   (Patients remaining in hospital less than twenty-four hours.)
8. HOSPITAL BEDS:
   (a) In private rooms_____; (b) in semi-private rooms or wards_____;
   (c) in general wards_____.....Total_____
9. Beds (d) "admitting"_____or (e) "isolation"_____.....Total_____
   (Not included in line 8.)
10. Average number of days' treatment given each patient.....
    (Divide total days, line 5, by total patients, line 5.)
11. Average number of patients treated per day.....
    (Divide total days, line 5, by 365 or 366 days.)

WORKING FORCE:

12. Number paid resident physicians and surgeons (including pathologist and other special residents)_____
    number of interns_____.....Total resident staff_____
13. Hospital nurses, average on daily duty: (a) graduate_____; (b) special_____;
    (c) pupil_____; (d) probationers_____.....Total nurses_____
14. Number male attendants (orderlies)_____; number female attendants_____...Total attendants_____
15. Social service: Volunteer workers_____; cases_____; visits_____Number paid workers_____
16. General employees (excluding physicians, nurses, attendants, orderlies, and probationers, listed above, but including all others).....Total number_____
17. Total working force.....
18. NUMBER AMBULANCES: For private use of hospital only _____; for emergency service_____;
    for public use (except emergencies)_____.....Total_____

INCOME

EARNINGS OR RECEIPTS FROM OPERATING THE HOSPITAL

FROM PATIENTS:

19. Pay patients (patients for whose care at least cost is paid), including the Rose Fund receipts (amounting to $_____) and including receipts for wages of special nurses if paid to the hospital (amounting to $_____) ..... $_____
20. Part-pay patients (patients for whose care only part of the cost is paid) ..... $_____
21. From county, city, or township patients:
    - Public charges (county) ..... $_____
    - Public charges (city) ..... _____
    - Public charges (township) ..... _____
    - Total public charges ..... $_____
22. Miscellaneous, sales, etc. ..... $_____
23. Emergency and accident room receipts ..... _____
24. Dispensary receipts ..... _____
25. Total earnings from operation of hospital and dispensary ..... $_____

CONTRIBUTIONS FOR CURRENT EXPENSES

26. From Federation for Charity and Philanthropy:
    - (a) Designated gifts ..... $_____
    - (b) Discretionary gifts ..... _____
27. From Calvary Morris estate ..... _____
28. From entertainments, fairs, etc. (net receipts) ..... _____
29. From dues, memberships, etc. ..... _____
30. From individuals not included in (a) or (b) ..... _____
31. From miscellaneous sources ..... _____
32. Total contributions for current expenses ..... $_____

INCOME FROM CAPITAL OR ENDOWMENTS

33. From income of endowment funds (special and general) ..... $_____
34. From rentals, interest on current funds, etc. ..... _____
35. From receipts from sales or other capital funds used for current purposes ..... _____
36. Total capital income from endowment or capital ..... $_____

SUMMARY INCOME

37. Total from operating earnings (line 25) ..... $_____
38. Total from contributions (line 32) ..... _____
39. Total income from capital (line 36) ..... _____
40. Grand total income from all sources ..... $_____

EXPENSES

HOSPITAL OPERATING EXPENSES

41. Administration ..... $_____
    (General officers, clerks, stationery, printing, postage, annual report, telephone, etc.)
42. Professional care of patients ..... _____
    (Including wages of special nurses if paid by the hospital $.....) (salary and wages, nurses, orderlies, attendants, employees, medical and surgical supplies.)
43. General house, department, and property ..... _____
    (Fuel and light, ice, ordinary repairs, rent, insurance, ambulance, laundry, provisions, housekeeping, etc.)
44. Uncollectible pledges, dues, etc., charged off ..... _____
    (If lines 26-32 are on the bills receivable basis and include these sums. If lines 26-32 are on the cash basis, report no figures here.)
45. Social service ..... _____
46. Dispensary ..... _____
    (Include deductions made from hospital figures for proper proportion of common overhead and department expenses. Make this figure, as accurately as possible, the total expense of the dispensary.)
47. Miscellaneous: Travel and transportation, etc. ..... _____
48. Total operating expenses ..... $_____

CORPORATION EXPENSES

49. Salaries (secretary or treasurer and clerks) and incidental operating expenses of the corporation ..... $_____
50. Expenses for raising funds for income, plant, or deficits, for education, advertising and publicity:
    - (a) Commission or salary paid individuals ..... $_____
    - (b) Proportion of Federation's expense for collection of funds, for extension, education, and efficiency ..... _____ _____
    - (This figure (b) should be obtained from the Federation.)
51. Interest on mortgages and loans ..... _____
52. Uncollectible bills for hospital service charged off ..... _____
    (If lines 19-25 are on the bills receivable basis and include these accounts. If lines 19-25 are on the cash basis, report no figures here.)
53. Taxes, legal or other corporation expenses ..... _____
54. Total corporation expenses ..... $_____
55. Total operating and corporation expenses ..... $_____
56. Average daily per capita cost of patients ..... $_____
    (Divide total cost, line 55, less dispensary cost, line 46, by total number of days of treatment, line 5.)
57. Average cost per dispensary visit ..... _____
    (Divide total dispensary cost, line 46, by total number of visits, line 6.)

ADDITIONS OR EXTENSIONS TO HOSPITAL PROPERTY

(To be added to permanent value of the plant.)

58. New machinery, apparatus, etc. ..... $_____
59. Alterations and extraordinary repairs ..... _____
60. New buildings and land ..... _____
61. Miscellaneous ..... _____
62. Total permanent additions ..... $_____

FINANCIAL SUMMARY

63.	Cash on hand or deficit at beginning of year	$ Deficit	$ Cash on hand
64.	Total income (line 40)		
65.	Total expense (line 55)		
66.	Balance on hand or deficit at end of year	Cash on hand	Deficit
67.	Totals		

ASSETS

68.	Value land, buildings and equipment (Used for hospital purposes.)	$
69.	Other land, buildings, and real property	$
70.	Restricted endowment funds	
71.	Unrestricted endowment funds	
72.	Cash on hand account principal	
73.	Accounts receivable	
74.	Total assets	

LIABILITIES

75.	Loans or mortgages	$
76.	Accounts payable	
77.	Other miscellaneous liabilities	
78.	Total liabilities	$
79.	Excess assets over liabilities	$

OFFICERS OF THE HOSPITAL

President ..... Secretary .....
Address ..... Address .....
Treasurer .....
Address ..... Superintendent .....

IF CITY INSTITUTION

Director public welfare ..... Superintendent of hospital .....
Commissioner of charities and correction ..... Secretary to director .....

The above report is correct and approved by me.
(To be signed by the president or secretary of the hospital or corresponding officers.)

Signature of superintendent making above report .....
.....
(Official title)

What the Chaplain Should Contribute to the Team-Work[1]

BY REV. FRANK W. TRACY, Chaplain St. Mary's Hospital, Rochester, Minn.

At the recent meeting of hospital chaplains in this city the fact was forcibly impressed on me that our hospital is not typical. From almost all of the dangers and difficulties discussed at that meeting happily we are free. We cannot, of course, be immune to the petty annoyances consequent on our humanity; even they, however, rarely invade the chaplain's department. My intimate knowledge of hospital work has been gained at St. Mary's, Rochester; with other Catholic hospitals I have little acquaintance.

As it is understood by me, the object of the Catholic Hospital Association is to elevate the standard of our hospitals, so that when classification of such institutions becomes general—it is bound to come, and soon—we shall be in the forefront. Team-work is considered such a potent factor in its consummation, that this meeting of the association is devoted almost exclusively to the subject, Team-work—its nature and necessity, the ethical basis of team-work, the sister's contribution, the physician's, the intern's, the nurse's, the patient's, and (ingloriously in the rearguard) the chaplain's. Quite appropriately! He is supposedly an abased entity, of whom vulgar rumor saith that, when useless in all other branches of the ministry, he will do as a chaplain. Verily! "Cast into exterior darkness."

What should he contribute to the teamwork of the hospital? Directly to the material prosperity; to the management practically nothing. Boldly I tell it, the chaplain's kingdom is not of the material success nor the perfect system of the institution; he will glory in such achievement by the owners and staff—his domain is spiritual, his chief influence psychic, and consequently his contribution to the team will be in direct ratio to his priestly efficiency and to his personality. Should he possess the temperament of a military governor, of a certainty he will contribute largely to the disorder of the hospital, the discomfort of those who are (unfortunately for them) confided to his keeping, and no small amount to the disturbance of his own soul. On the contrary, if he be a man of deep religious conviction, gentlemanly behavior, high ideals, comprehensive charity, and attend strictly to the duties of his office, unquestionably he will be an acquisition to the team, be at peace with his neighbor, and the current of his existence will run smoothly. He will also be guided by the terms of his appointment. My instructions from his lordship, Bishop Heffron, when he sent me to Rochester, were exceeding brief; they can be summed up in the terse sentence, "Don't interfere."

The Catholic chaplain is the direct representative of the Catholic church in his institution—he is there by right of episcopal authority—and therefore his attitude should not be apologetic. He stands for the Catholic church and its clergy to many of the patients who have never before met a Catholic priest, and who in all likelihood will judge the Church and its ministry by their impressions of the chaplain. He should on that account be ever on the qui vive, and his conduct must be above reproach. "See that you walk circumspectly" has for him a signal significance, as in hospitals of prominence or large capacity

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

he will necessarily be much in evidence. His horizon is indeed a wide one. The people with whom he comes in contact are of varied types socially, religiously, and intellectually. He meets the man of millions and all the intervening grades to the poor man in the ward whose sympathetic townsfolk paid his transportation to the clinic. He meets people of intense religious feeling, the indifferent—who consider one religion as good or as bad as another—those who affiliate with a church to satisfy the conventions, and the purely worldly, who never give religion a thought. He has to deal with good, lax, and derelict Catholics, fairminded non-Catholics, the blindly prejudiced, who can assign no sane grounds for their opposition to us, and betimes the lady of Gothic architecture, to whom his Roman collar is the hall-mark of iniquity.

The chaplain comes to know men of undoubted genius —authors, men who have gained unwonted distinction in the business world, and eminent professional men; the female of the species who affects poetic inspiration, the ordinarily well-educated business man as well as he of common school knowledge, and the really illiterate, and to this widely divergent aggregation the chaplain must be "all things." An impossible feat, you think! Positively no. With unfailing good humor and a heart full of Christly charity, he can work wonders and accommodate himself to them all. "Charity is patient, is kind, dealeth not perversely, is not provoked to anger, beareth all things, endureth all things."

The chaplain is simply a pastor of souls. His bishop commissioned him to minister to the spiritual wants of the sisters and of all the Catholic inmates of the hospital. Undoubtedly he will have no difficulty in leading the sisters to deeds of sanctity; in isolated instances he will have a restraining influence on mistaken zeal. He should conduct the prescribed religious exercises of the house with decorum, cheerfully and punctually—the last so much contributes to the good order of the establishment. As a good shepherd, he maintains a vigilant guardianship over the Catholic nurses, helping them to lives of virtue, and continually holding before their mental vision the necessity of conscientious service; taking care not to interfere with their other activities unless they offend against Christian ethics. To the Catholic patients he must give of his best, the special objects of his solicitude being the poor, the lax, and the derelict. The poor he must always cherish, the lax he must energize and invigorate, and the derelict he must rescue and bring into the safe haven of the Almighty Father's friendship. In every instance he should adopt all legitimate means that "nothing be lost." Sometimes this will entail minor surgery. By the judicious use of his probe he can drain many of the long-standing abscesses of the soul, and, by injections of a well-regulated solution of brotherly and God's love, keep the spiritual pulse strong and regular. How very frequently does the chaplain contend with persons on the verge of despair! Their physical condition demands immediate surgical action; their souls, on account of their erring lives, are even in a worst state; they realize their sad plight and shrink from the possible consequences of an operation, fearing God's just wrath much more than the scalpel of the surgeon. Then it is that the chaplain can accomplish his best work. He must treat such cases with the greatest tenderness, allay their fears, and drive home the truth that God is a loving father even when offended, that He is always willing to grant pardon to the truly repentant who return, prodigal-like, to crave forgiveness, confess their transgressions in His sight, and determine to repair the falls of the past by the uprightness of the future. Generally they hearken to his pleading, and behold the instant change! A craven coward, hesitant and despairing, transformed into a being calm of soul, confident of God's mercy, reliant on God's will, and now ready to face his ordeal with true Christian fortitude.

To the patients who are not Catholics the chaplain must show continued kindness and courtesy. He should not, of course, obtrude on them, but he ought to call on them in a friendly way if he has reason to believe that his visit will be agreeable. From four years' experience it seems to me that in the great majority of instances his visit will be very desirable, provided it be timely and not unduly protracted. They will easily recognize the sincerity of his concern, and his disinterestedness can be proved by absolute refusal of anything that savors of a gratuity. Those patients leave the hospital with a better feeling for the chaplain's religion and with a regard—oft-times an enduring friendship—for the chaplain whose kindly, sincere interest must have assured them that his alleged satanic appendages of hoofs and horns are as mythical as his worship of graven images or his fee for absolution.

Visitation of the sick plays no unimportant part in the chaplain's contribution to the teamwork. Sick people demand a great deal of sympathy; as a rule, they are lonely, and those who are seriously ill for the first time are very liable to become despondent and pessimistic during the early stage of their sickness. They should be visited opportunely and cheered up. Cheerful and hopeful talks to the sick are a splendid tonic and conduce to their speedy recovery. One must not descend to levity —it is unseemly; anything, however, is better than gloom. With all due respect to ecclesiastical authority, I assert that no man of tragic mien or sullen disposition should be appointed a hospital chaplain; his visit to the patient will usually be as beneficial as a streptococcus infection.

The chaplain should be a pronounced pacifist—Bryanesque, in fact. He must be on good terms with everybody in the hospital—whenever possible. His relations with the interns ought to be of the most cordial character; they are ordinarily big, broad-minded, well-informed, companionable fellows and always anxious to help. If given opportunity, they will be the chaplain's best friends. At St. Mary's, Rochester, we get along exceptionally well. The chaplain never yet essayed to instruct the interns as to how they should care for their patients, and up to the present no intern has manifested the slightest inclination to conduct the Sunday evening devotions.

In conclusion, let me state that, should the chaplain not have the gift of knowledge, he must pray unceasingly for the gift of silence; could he but similarly convince many of his visitors, most assuredly would he contribute to the joy of the angels in heaven.

There was a suggestion made this morning that the chaplain be guardian angel to the sisters. I would say from the bottom of my heart, do not change the old order; leave their tutelage to the invisible spirit—the relation is much less liable to misinterpretation.

Dr. Karl H. Van Norman, formerly first assistant superintendent at the Johns Hopkins Hospital, who enlisted in the British hospital service about a year and a half ago, has been promoted to the position of assistant to the chief of the Canadian hospitals in England. The unit embraces nearly a score of hospitals caring for wounded Canadians, the headquarters being in London.

HEALTH AND HAPPINESS WEEK

Minneapolis Celebrates Enthusiastically With Monster Parade, Exhibits, and Public Meetings

The fact that the general public is becoming more interested in matters pertaining to health has had no better demonstration recently than the celebration of "Health and Happiness Week" in Minneapolis during the first week in December, which at the time attracted wide attention.

Like other cities, Minneapolis has had frequent exhibits and celebrations by various organizations, such as antituberculosis societies, infant welfare organizations, cancer associations, etc., besides the usual "Health Sunday" in the churches once a year. But this year all such demonstrations were united into one, the celebration extending over a period of eight days, and a degree of enthusiasm aroused that was a surprise to even those who were responsible for the plans. A large number of organizations were interested in the celebration, among them being the Civic and Commerce Association, the women's clubs, the Antituberculosis Society, the Associated Charities, Infant Welfare Society, the City Hospitals, the Dental Society, the Health Department, various departments of the University of Minnesota, the Boy Scouts, the public schools, Campfire Girls, and others.

Fig. 1. Float of the Infant Welfare Society in the parade which inaugurated Health and Happiness Week in Minneapolis. Photographed by C. J. Gibson, Minneapolis, specially for THE MODERN HOSPITAL.

The celebration was opened officially on December 2 by a monster parade, surprising in its size and unique in its conception. For several hours before it started, the sidewalks along the line of march were crowded by thousands of people, whose interest, once aroused, remained unimpaired during the entire week. The parade was headed by a group of fifty young women on horseback, clad in the white uniform of the historic Ku Klux Klan of Civil War days. These were followed by thirty-eight other divisions, including "good housing" floats, Boy Scouts, a number of children from the various settlement houses dressed to impersonate various infectious diseases, and a large number of automobiles bearing representatives from the various women's clubs, and floats illustrating the work of the Dental Society and some of the branches of the City Hospitals, and of the Glen Lake Sanatorium. The parade required more than an hour to pass, and was made up mostly of organizations directly connected with some form of health work, or floats intended to drive home some important lessons.

Following the parade, the real celebration was begun on Sunday by the observance of Health Sunday in most of the churches of the city. On Monday morning an exhibit was opened to the public in a large store room, usually used as a show room for automobiles, on one of the principal business streets, with an overflow exhibit across the street. Booths in the exhibit were occupied by such organizations as the Civic and Commerce Association, the Department of Household Economics of the University, the Department of Dietetics of the public schools, the Antituberculosis Society, the Dental Society, the city hospitals, the Health Department, and the Visiting Nurses and others. The rooms were crowded by the general public every day for the entire week from 10 a. m. to 9 p. m.

The largest exhibit, and the one which seemed to attract the most attention, was that from the city hospitals. This was especially and carefully planned to show to the public the work of a large general hospital, rather than simply the buildings and equipment. A number of artistically designed posters conveyed to the public information in which they should be interested, such as the number of patients admitted during a year, the capacity of the various departments, method of obtaining a patient's admission, and charts showing the route taken by an ordinary patient, from the receiving wards to his discharge through the Social Service Department, and indicating what is done for him at each stage. A series of about fifty large photographs, showing scenes in the hospital, attracted attention and added an artistic element to the exhibit.

Fig. 2. Float calling attention to the advantages of the Minneapolis parks for recreation. Photographed by C. J. Gibson, Minneapolis, specially for THE MODERN HOSPITAL.

The public showed a very keen interest in the demonstration of the nursing of contagious diseases. This was shown by a series of photographs, large enough to be easily seen, and taken for the purpose in the Contagious Disease Hospital. A nurse, especially trained in the Pasteur technic, demonstrated these pictures, describing each step in the care of a case of contagious disease from the removal of the patient from the ambulance until his final discharge. The nurse wearing her gown at the bedside of a patient, the same nurse changing her gown and scrubbing her hands before going to another patient, the sterilizing of the dishes, disposal of the garbage from the pa-

tient's tray in the incinerator, the taking of a throat culture, an intubation, and many other operations of a like nature, familiar to those engaged in the nursing of contagious diseases, were shown in the photographs and demonstrated to the public. Other nurses illustrated, by means of a hospital bed and a life-size doll, such familiar and useful things as the bathing of a patient in bed, the making of a bed, the making of a croup tent, and the Klondike bed. Hopewell, the tuberculosis branch of the city hospitals, had an interesting corner, in which was the Klondike bed above alluded to, and two show-cases filled with fancy work made by the patients, much of which was sold for the benefit of the patients who had made it.

The laboratory of the hospital showed many things illustrating the work of a modern clinical laboratory, and the pathologists were kept busy during the entire week by a crowd deeply interested in actually seeing the germs they had heard so much about, or listening to explanations of different laboratory operations.

A somewhat unusual part of the hospital exhibit consisted of a moving picture reel, taken in the hospital for the special purpose of illustrating the emergency service. It began by showing the emergency ambulance with an accident case, backing up to the door of the receiving ward.

Fig. 3. Exhibit of Minneapolis city hospitals, Health and Happiness Week. Photographed by Sweet, Minneapolis, specially for THE MODERN HOSPITAL.

The patient was then shown receiving the first examination and first dressing in the receiving room, and was followed through the surgical ward to the operating room and placed upon the operating table. The actual operation was not shown, but the film showed the preparation of an operating room for an operation, including the sterilizing of the dressings and instruments, the "scrubbing up" of nurses and interns, and the placing of the patient upon the table. Such a film has a real educational value, as it shows a phase of hospital work not usually seen by the public. Folders bearing a picture of the hospital and giving much condensed information were distributed during the exhibit.

The activities of Health and Happiness Week were not confined to the parade and the exhibit; these were accompanied by talks on health subjects in various parts of the city during the entire week. A lecture hall within a few blocks of the exhibit was comfortably filled every afternoon and evening, and talks were given there, and at various shops, school houses and churches, throughout the week. Some of these health talks were given by local physicians, while others were delivered by special speakers brought from various other cities for the purpose.

On Tuesday night the great "rally" of the week occurred. This was a monster meeting held in the Auditorium, and addressed by Dr. W. A. Evans, of Chicago; President George E. Vincent, of the University of Minnesota; Dr. C. J. Oakman, of Detroit; and Dr. H. R. Gaylord, of New York. The Auditorium, with a seating capacity of nearly three thousand, was filled to the limit, and some of the speakers were sent to the street, where they addressed an overflow meeting of another thousand.

The week's celebration was generally conceded to have been a complete success. It has stimulated an interest in health matters to a surprising degree, and its good influence will probably be far-reaching. One important result which is hoped for at present is the arousing of public sentiment in favor of taking the health department out of politics and uniting it and the hospitals and the department of hygiene of the schools under one board, which would then have charge of all health activities of the city. A bill to provide for such an organization is now being prepared, and will be presented to the Legislature in a few weeks. In the meantime arrangements have already been begun to repeat "Health and Happiness Week," probably on a larger scale, next year.

STATE AID WITHDRAWN FROM CERTAIN PENNSYLVANIA HOSPITALS

Auditor-General of Pennsylvania Acts on Recommendations of Baldy Report—Must Better Conditions or Get No Money

Auditor-General Powell, of Pennsylvania, has recently refused to approve payments of state appropriations to certain hospitals hitherto in receipt of such aid. This action is based on the report (characterized by the newspapers as "blistering") of the Bureau of Medical Education and Licensure, which declares that a number of state-aided hospitals are inefficient and unworthy of encouragement. Hospitals at Braddock, Chester, Corry, Indiana, McKees Rocks, Meadville, Mount Pleasant, New Castle, Pittsburgh, Sharon, Uniontown, and Waynesburgh are said to be affected. The board of directors of one of these hospitals is said to have taken the superintendent of the institution so severely to task for pointing out deficiencies to Dr. Baldy of the Bureau of Medical Education and Licensure that the superintendent's resignation followed. On the other hand, it is pleasant to note that at least one hospital has decided to make the improvements necessary to retain a claim on state aid; presumably others have followed this sensible course.

The report of the Bureau of Medical Education and Licensure contains nothing that is new to those familiar with the hospital situation in Pennsylvania; yet it seems to have created a sensation among the lay public. Columns of astonished comment have been devoted by the lay press to the deficiencies pointed out by the report. That some of the 166 hospitals receiving state aid allow patients to undergo the dangers of anesthesia at the hands of inexperienced interns or inexpert practitioners—that some are disgracefully lacking in laboratory equipment—that some do not discriminate against incompetent physicians and surgeons—that in many hospitals patients are admitted and sent to the operating room without any preliminary scientific examination or any preparation for operation whatever—that in some cases the interests of a hospital and its patients have been subordinated to the interests or ambitions of some one influential physician—all this is apparently news to the good people of Pennsyl-

vania whose money has been lavished, not, as they supposed, to benefit the sick and suffering, but primarily to feather snug nests for professional incompetents.

Unwelcome as these facts must be, Pennsylvanians have good reason to feel encouraged; in the first place, because the best remedy—publicity—has been unsparingly applied to the ills from which the institutions of the state are suffering; in the second place, because, in general, hospital managers are reported as eager to remedy defects when these are pointed out; in the third place, because the auditor-general of the state has followed up the Baldy report by stringent action against the "self-satisfied and helpless hospitals, more or less dominated by private influences."

NURSE MAY GIVE ANESTHETIC

Attorney-General of Pennsylvania Decides that an Anesthetic Is a Drug, and May Be Given by a Nurse Under Direction of a Physician

"A physician sees a patient, examines her and determines that it is necessary that an anesthetic be administered for the purpose of the performance of an operation or for other reasons. He instructs the nurse to administer the anesthetic. Is this action on the part of the nurse illegal in the state of Pennsylvania?"

The preceding question was submitted to the attorney-general of Pennsylvania, who answered as follows:

"The question arises in connection with the practice of medicine and surgery.

"By the act of June 3, 1911, P. L. 639, Section 1, it is provided:

"That on and after January first, nineteen hundred and twelve, it shall not be lawful for any person in the state of Pennsylvania to engage in the practice of medicine and surgery, or to hold himself or herself forth as a practitioner in medicine or surgery, or to assume the title of doctor of medicine and surgery, or doctor of any specific disease, or to diagnose diseases, or to treat diseases by the use of medicines and surgery, or to sign any death certificate, or to hold himself or herself forth as able to do so, excepting those hereinafter exempted, unless he or she has first fulfilled the requirements of this act and has received a certificate of licensure from the Bureau of Medical Education and Licensure created by this act, which license shall be properly recorded in the office of the Superintendent of Public Instruction at Harrisburg."

"This section of the law contains within it practically everything that is included in the practice of medicine and surgery—which has been defined to consist in three things:

"First, in judging the nature, character, and symptoms of the disease; second, in determining the proper remedy for the disease; and third, in giving or prescribing the application of the remedy to the disease."—*Underwood v. Scott*, 23 Pac. 942 (Kansas).

"These are not the functions of a nurse. The act of May 1, 1909, P. L. 321, which provides for the examination and registration of nurses, with the purpose in view of safeguarding the public from insufficiently trained and incompetent nurses expressly provides (Section 9):

"Nor shall anything herein contained be considered as conferring any authority to practice medicine, or to undertake the treatment and cure of disease."

"The question submitted to this department, therefore, is, in effect, whether the administration of an anesthetic by a nurse, acting under the orders and direction of a physician or surgeon, amounts to the practice of medicine by such nurse.

"There are many things that a nurse may lawfully do in the field of medicine and surgery, when acting under the direction and supervision of a physician or surgeon, which she could not do of her own initiative or independent of a physician's orders or instruction.

"For example, she may administer drugs of all types, narcotics and stimulants; give hypodermic injections of morphia, hypodermoclysis and enemas; take the temperature and pulse of the patient and give prescribed remedies in case of collapse or undue excitement; give baths and massage; place dressings and bandages, and apply salves, prepare saline solutions to be injected into the blood vessels under certain conditions, and many other duties peculiarly within the ministrations of the nurse in the sick room.

"The prescribing of these various things is the duty of the physician; but under his orders and direction, the nurse may lawfully administer them—otherwise her usefulness would be very largely curtailed, if not wholly destroyed. The nurse may not assume the place of the physician and practice medicine and surgery, but she assists him in his practice, and in some respects serves as eyes, hands, and feet for the physician—she is a human instrument, used and employed by the physician in the treatment and cure of disease.

"An anesthetic is a substance capable of producing temporary loss or impairment of feeling or sensation.

" 'Anesthetize, is defined in the Century Dictionary: 'To bring under the influence of an anesthetic agent, as chloroform—render insensible, especially to pain.'

"Anesthetics are used in the practice of medicine and surgery largely in connection with surgical operations for the purpose of rendering the patient insensible to pain.

"Whether an anesthetic shall be used in a given case, and what particular anesthetic shall be employed, is a question for the physician and surgeon alone. To determine these questions comes within the practice of medicine.

"But there is nothing in the law which places the administration of anesthetics on a different or higher plane than any other drug. The physician must prescribe it, and directs its administration, but the trained nurse, acting under his orders and directions, may administer it without assuming any of the functions of the physician. From the very nature of the case, the nurse generally acts more directly under the supervision of the physician in the administration of anesthetics than she does with respect to most drugs, which are frequently, if not usually, administered during the absence of the physician, but in accordance with his directions.

"I take it that your inquiry presupposes that the nurse has had training in administering anesthetics and is competent to do so.

"It must be remembered that all these acts for the examination and licensing or registration of physicians, nurses, etc., are not intended to protect these several professions against competition, but are an exercise of the police power of the state to protect the public against incompetent and unskilled practitioners, and should be construed solely with that end in view.

"You are accordingly advised that it is not illegal for a nurse who has been trained in the administration of anesthetics to administer such anesthetic as may be prescribed by a physician, under and in accordance with his orders and directions. Very truly yours,

"WILLIAM H. KELLER,

"First Deputy Attorney-General."

An appropriation of $75,000 is available for the erection of new quarters for the medical school of the University of Oregon, at Portland, and the university authorities are seeking additional funds which will enable them to build a general hospital, a hospital for crippled children, and a hospital to be devoted exclusively to surgical cases. Construction work on the new home for the medical school will probably be started within the next few months, it is said.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The History of the Growth of the Anti-Tuberculosis Movement in Massachusetts and the Lessons to be Learned Therefrom. Vincent Y. Bowditch, M. D. Boston Med. and Surg. Jour., 1916, CLXXV, No. 24.

Bowditch sketches the history of sanatorium treatment of tuberculosis, particularly in Massachusetts. At present, he says, ten or twelve cities in Massachusetts of 50,000 inhabitants or over have hospitals (some under private management) for advanced cases; four cities under 50,000 have hospitals. There is also one county hospital in Hampshire and another authorized for Barnstable county. In addition, fifty-four of the cities and towns of 10,000 inhabitants or over have dispensaries.

A New Development in Sanatorium Treatment. Daniel E. Drake, M. D. Jour. Am. Med. Assn., 1916, LXVII, No. 24.

Drake emphasizes better diagnosis, secured by the cooperation of trained specialists, as the all-important factor in sanatorium administration. "It is therefore more necessary than ever that modern sanatoriums have a competent body of visiting consultants in addition to their own staff." Illustrating this point, he analyzes seventy-five cases of chronic constipation, and concludes that the group requiring surgical therapeusis, in addition to the usual sanatorium care, is rapidly growing in size and importance.

The Intensive Group of Social Service Cases. Mary C. Jarrett. Boston Med. and Surg. Jour., 1916, CLXXV, No. 23.

Social service in this hospital, as in most others in which it is rendered, falls into two classes of cases. In one only slight service is undertaken; in the other the social service department endeavors, by advice, by study of the history as an aid in diagnosis and by continual supervision, to benefit not only the patient, but also his family. Jarrett believes that more attention should be paid to out-patients in the earlier stages of mental difficulties with a view to prevention, and that, when funds permit, a routine examination should be made of every patient to determine his need of social care.

The Tuberculin Dispensary. Richard Cole Newton, M. D. Med. Rec., New York, 1916, XC, No. 26.

Newton believes that the chief reason for the unsatisfactory rate of progress toward the eradication of human tuberculosis is the large number of unrecognized incipient cases. To stamp out tuberculosis it will first be necessary to make routine tests of the population for the disease; and the first practical step toward this end, in Newton's opinion, is the establishment of properly equipped tuberculin dispensaries in which cultures can be made, x-ray pictures taken, and every appliance for the diagnosis and cure of tuberculosis employed by experts. He suggests that it would be well worth while for some philanthropist to institute in the United States a string of tuberculin dispensaries like the Rockefeller Foundation hookworm dispensaries, "only somewhat more elaborate (since they must be more permanent, and fitted to handle a more complicated disease)."

State Care of the Indigent Insane. Charles W. Burr, M. D. Pennsylvania Med. Jour., 1916, XX, No. 2.

Burr is convinced that state care is the only satisfactory solution to the problem of the indigent insane, and that a fixed proportion of the state's income should be devoted to this purpose. The board controlling the insane, the feeble-minded, and the epileptic should be entirely separate from the board of charities and should control disbursements for these classes. The criminal insane, the acutely insane, and the chronic insane should each be segregated. The institutions should be small. Hospitals for the acutely insane should, when possible, be in large cities; hospitals for the chronic insane, in the country. It is better, Burr believes, to spend money on farms for the chronic insane than on elaborate buildings. The local hospitals, in his opinion, should control their own internal affairs, but should be dependent on the central (state) board for money.

Hospital Experience with an Open-air Hall (Ziekenhuiservaring met een openluchtzaal). Dr. J. L. LeRutte. Ziekenhuis, Amsterdam, 1916, VII, No. 10.

The author has used the open-air treatment with success for the last twelve years. He used stretchers, covered with oilcloth, for the treatment of tuberculous mental patients. These stretchers look like small portable tents and have the advantage that they can be carried anywhere in the hospital park, in the shade or sunlight, just as the patient prefers. These stretchers are also used in cases of chlorosis with heart and other complications and for rest cures.

The author then relates how Dr. Pol, in Lawang, Java, has used the open-air treatment for many years, not only in tuberculous cases, but also in many cases of psychoses, in dementia precox, and depressive and inanition psychoses. He applied the sun treatment in cases of rheumatism, anemia, in diseases of the heart and blood vessels. Very quieting was the effect of hydrotherapy combined with the open-air treatment on restless patients with hallucinations, especially on those with alcoholic psychoses. Most of them fell asleep. Sufferers from persistent sleeplessness passed the whole day in the open air in deep sleep. In some cases of insomnia and absolute loss of appetite it was found that the patients were greatly benefited by a small amount of work in the field or in the kitchen garden. When the patients had to stay inside for some reasons, all the former symptoms returned, which proves that the favorable effect must be ascribed chiefly to fresh air and light. The author thinks that in general the hospitals in Holland do not give enough access to light and fresh air, and the temperature is usually too high and the moisture of the air varies too much. The question of ventilation is of great importance. Here many wrong notions are still in vogue, and yet the experiences in the open-air treatment should point out the right way. A healthy person sleeps much better in a cold room with an open window than in a closed, warm room. Why should this truth be disregarded in a hospital?

Dispensaries of Social Hygiene and for the Prevention of Tuberculosis (Dispensaires d'hygiène sociale et de préservation antituberculeuse). Ann. d'hyg. pub., Paris, 1916, XXV, April.

Among the preventive measures against tuberculosis public dispensaries take the first place. Experience proves that a dispensary renders the greatest service and at a very low expense. In the course of a discussion of this question in the French Senate it was proposed to establish such dispensaries in all the larger communities of France, except in places where antitubercular dispensaries have been established by local initiative. But if in a community, during five consecutive years, the number of deaths exceeds the general average mortality in France, a public antituberculosis dispensary shall be established if the board of public hygiene so decides. The expenses of these dispensaries are to be borne, if no local provisions have been made, by the community, by the department, and by the state. It is estimated that such a dispensary with all its accessories will not exceed 25,000 francs ($5,000). The physician appointed for this service visits the dispensary at fixed times. A nurse is to have full charge of the establishment. In the larger communities a small service of hydrotherapy may be combined with the dispensary. By establishing a great number of these dispensaries it is expected that the number of hospital patients will be greatly reduced.

After-Care of Infantile Paralysis Cases. Oliver H. Bartine. Med. Rec., New York, 1916, XC, No. 25.

Bartine, who until recently was superintendent of the Hospital of the New York Society for the Relief of Ruptured and Crippled, cautions "the many enthusiasts who are desirous of opening orthopedic clinics and brace-shops" to give the matter careful consideration and to consult with those best informed on the subject, lest they find themselves carrying an unnecessarily expensive burden and furnishing inadequate relief. He emphasizes the value of better clinical and social histories of cases of poliomyelitis. The policy of obtaining such histories, not only in indoor, but also in outdoor departments, has been generally adopted during the recent epidemic, and the resulting data promise to be of great value. Bartine finds it essential that hospitals caring for such cases have an adequate social service department. It is necessary, particularly when parents understand little English, to drill them on the doctor's instructions, to impress them with the importance of returning on the dates specified, and to ascertain, if the homes are far distant, whether or not the parents can afford the carfare. The social worker also sees that treatments prescribed by the doctors are carried out, and that the needs of the little patients are supplied with respect, for instance, to nourishing food, warm clothing or orthopedic shoes. At the Hospital for Ruptured and Crippled a fund is provided to meet such needs.

The Institution of Maternal Assistance in Bologna. Dr. G. Finizio. Nipiologia, Napoli, 1916, II, No. 3.

This institution was established by a society of charitable people for the purpose of assisting poor married mothers and their babies, as the public institutions of this kind are only permitted to receive illegitimate infants and foundlings. The establishment exists since 1907 and has done a great work since. In 1915 not less than 310 mothers with their babies have been cared for. In very many cases the mothers are too poorly nourished to feed their babies, and it is especially these mothers that are assisted. The institution serves on an average of sixty meals each day. Mothers who are sick or not in a condition to care for their babies, receive medical attention and the infants are fed partly by wet-nurses, partly on artificial food.

With regard to tuberculous mothers the author thinks that, considering the marked predisposition of the newborn to take tuberculosis, the child should at once be separated from its mother and cared for in special institutions similar to those established in Switzerland and other countries.

The Treatment of Injured Workmen in Large Hospitals (De behandeling van door bedrijfsongevallen getroffenen in de groote ziekenhuizen). Dr. J. A. Korteweg. Ziekenhuis, Amsterdam, 1916, VII, No. 10.

Workmen's insurance against accidents is a reasonable demand of our time, but the law as it now exists in Holland is far from being perfect. In former times necessity frequently compelled an injured workman to go to work before he was completely cured. The insurance law has done away with these deplorable conditions. But in spite of the greater means and more perfect methods the results of the treatment of fractures are poorer than in former times. The cause of these shortcomings must be sought in the great difference between the small amount of scientific knowledge which the treatment of mechanical injuries requires, and the great amount of time and the high degree of care which are necessary in the application of this knowledge. For these reasons the treatment of such cases is to a great extent left to assistants. But, lacking the knowledge of practical life, these assistants cannot see what great social interests depend on a complete and perfect cure. From want of the necessary medical experience and a certain light-mindedness they lack the power of conviction, which, next to experience and unselfish devotion, is necessary to gain the respect and confidence of the patient in such a degree that the latter will follow carefully the advice and instructions given him. For these reasons the treatment of injured workmen demands a man of ripe experience, not only in the field of mechanical injuries, but also in the field of knowledge of human character; a man of ripe years, who has seen more of the world than an inexperienced young student.

Institutional Typhoid Epidemic Combated by Vaccination. Philip B. Newcomb. Jour. Am. Med. Assn., 1916, LXVII, No. 24.

Complete and compulsory immunization was practiced on 1,498 persons, comprising officers, employees and their families, and patients of the Osawatomie State Hospital for the Insane, Osawatomie, Kan., in the spring of 1916. During the previous summer twenty-five cases of typhoid had appeared in the town of Osawatomie, situated a mile from the hospital, and a few typical and atypical cases occurred in the hospital during the winter of 1915-16. Immunization of patients and attendants was urged, but was not carried out until after the occurrence of an epidemic of forty-one well-defined cases in the hospital in March. In April authority was obtained to enforce vaccination on all officers and residents on the hospital grounds. Since it was found that the cost of the ordinary serial package of bacterin, supplied by a pharmaceutical house, would be prohibitive, bulk bacterin was prepared from the same strain of bacillus as that used by the army, and over 4,000 doses were administered. Weston's technic was followed in the main. No abscesses followed the injection and no severe reactions were noted, though a few patients had mild chills. Efforts to locate the source

of infection in food, water, or carriers were unavailing, but the colon bacillus was found in the well water used in the institution. The well was closed and boiled river water used thereafter.

Newcomb believes that general immunization should be practiced in institutions on the appearance of typhoid in the vicinity or on the appearance of the first suspicious resident case, and that routine inoculation of new patients and recently installed employees should be made the rule in any institution with a large resident population. In any epidemic, also, all sources of food and all water supplies should be under suspicion and examined most carefully, no matter what their previous reputation may have been.

Diversional Therapy in Mental Diseases. A Plan for Its Employment, with Special Reference to Social Clubs. Leigh F. Robinson, M. D. Med. Rec., 1916, XC, No. 24.

Robinson believes that diversional therapy is capable of very useful results in various classes of mental cases, helping to dispel illusions and to reeducate the attention in manic-depressive insanity, retarding deterioration in the precox group, directing the stream of thought into healthier channels in the functional group of psychoses, and arousing from their lethargy the dements and aments who show slow reaction to external stimuli. Care should be taken not to overtax the patient's strength. At the Taunton State Hospital, Mass., this work is under the direction of the superintendent of nurses. Robinson believes this to be the best arrangement. He is very enthusiastic about results attained with social clubs for specified diversional purposes among patients. He lays down the following principles for their conduct:

"First, give patients, as far as possible, full charge of the clubs which they compose; second, keep up an interest by not allowing the object of the club to diminish in its importance; third, serve refreshments at the meetings, and, if at all possible, grant picnics and special privileges whenever such are requested; fourth, provide badges, which not only increase the interest, but create pride in the wearer; fifth, encourage officers and outsiders to attend the meetings frequently, but never allow visitors to forget that they are objects of the club's hospitality."

The Medical Department of a Modern Industrial Plant. F. O. West, M. D. Boston Med. and Surg. Jour., CLXXV, No. 25.

The modern industrial plant in question is engaged in the manufacture of phenol, benzol, and trinitrophenol (picric acid). The medical department was at first housed in a small pump-house. First aid was administered, as a side issue, by a nonmedical employee; serious accidents were cared for by the first outside physician available. Gradual evolution has resulted in the establishment of a fully equipped hospital and a resident staff. The hospital is a sheet-iron building, erected and used solely for medical purposes and containing a 4-bed ward, a first-aid room "possessing all the supplies and equipment of the outpatient surgical room of our largest hospitals," a pharmacy, a bath room, an office for the resident surgeon, a small laboratory, and a living room for one of the first-aid men. The staff consists of the resident surgeon (Dr. West), who devotes part of the day to the plant and is on call for accidents; three first-aid men, one of whom is a a pharmacist and one of whom sleeps on the premises, and a clerk. Emergency stations have also been established in all the buildings, and first-aid racks are inspected daily by a member of the hospital department. On an average, 965 treatments are given a month. One of the most important functions of the hospital department is the examination of new employees. This is especially rigid in the case of applicants for employment in the picric acid department, 9 percent of whom have been rejected for various causes.

Clinical Clerkships in the First Surgical (Cornell) Division at New York Hospital. Burton James Lee, M. D. Jour. Am. Med. Assn., 1916, LXVII, No. 25.

A plan of instruction of student clerks in the wards of New York Hospital in the service of Dr. Charles L. Gibson is said to be very successful. Clinical clerkships are provided for both fourth-year and third-year men in the second and third college terms, respectively. Sections of eight men at a time, for a period of five weeks, devote their entire time to the surgical wards in the hospital, except for two afternoons a week, when work at the college is concentrated. Students are given definite responsibilities at the outset and made to feel that they are an integral, useful part of the working force and not outsiders. Three are on duty in the operating room each day, serving as anesthetist, assistant, or in some other capacity. The remaining five are occupied with history-taking, physical examination, general and special work in the laboratory or attending general operations. Each student comes in contact with a large number of cases, and the opportunities to an ambitious student are correspondingly great. The students are given to understand that success depends largely on their tact and courtesy toward patients and nurses, and they are said to gain the confidence of patients to a remarkable degree.

The Value of Isolation Hospitals for Small Cities. Charles S. Caverly, M. D. Am. Jour. Pub. Health, 1916, VI, No. 11.

Caverly says that even passably well-equipped isolation hospitals are exceptional in rural districts and villages and in cities of less than 25,000 population. The usual procedure, when several cases of communicable disease occur in such communities, is to improvise a "hospital" in some unoccupied and isolated building. Suitable isolation hospital facilities would be a saving, inasmuch as house quarantine would be shortened and one focus of infection substituted for several. Caverly urges that the practice of consigning the isolation hospital to a remote, unfrequented spot be abandoned in favor of the policy of placing it near a general hospital and operating it as a branch of the latter. He suggests that, while it is obviously impracticable for separate small communities to operate isolation hospitals individually, by combining, several rural towns or several rural counties might arrange for adequate isolation hospital facilities.

Federal Aid for Consumptives—Would the Kent Bill Help? Gertrude Vaile. The Survey, 1916, XXXVII, No. 13.

The Kent bill now pending in Congress provides for government subsidy not to exceed 75 cents per day per patient for the care of indigent tuberculous persons who are not legally residents in the states where they are temporarily located, on condition that an equal amount is provided by the authorities in that state or someone else. Persons who come in order to receive this aid are excluded from its benefit. Transportation to the patient's place of legal residence may be provided if proper arrangements are made for sanatorium care there, but the bill expressly states that no aid shall be given toward the patient's care in his

home locality. The government may stipulate the standard of care given in any sanatorium where subsidy is given.

Miss Vaile, who is executive secretary of the Denver Department of Social Welfare, believes that the passage of the bill would increase the suffering of tuberculous people and work injustice on communities. It would increase migration of the tuberculous by removing all need for prudence; it would not relieve the burden on local authorities, who are called on to provide an amount equal to the government subsidy; it would tend to make the beneficiaries remain away from their homes long enough to lose their settlements in their home states. Miss Vaile suggests that government funds be devoted rather to investigation, education and active experimentation, and to aid of residents instead of nonresidents, residence being defined as the place where the person last had legal settlement.

County Health Administration. W. S. Rankin, M. D. Jour. Am. Med. Assn., 1916, LXVII, No. 25.

Rankin says that there are in process of development two systems of county health work—namely, the system which employs the whole-time county health officer, and the unit system. The advantage of the first plan is its relative stability; its principal disadvantage is the absence of a definite plan of work. The unit system, though lacking the continuity and stability of the whole-time county health officer plan, offers a clear-cut plan of work and a means of executing the plan. The fundamental principles of the unit system, according to Rankin, are: (1) a division of the total county health problem into a number of smaller, independent health problems or units of health work, and, (2) a contract between the state and the county, the county to appropriate funds to be used by state agents in handling one or several of these problems. For instance, a county may appropriate funds to be used by state agents in a campaign against tuberculosis or typhoid, or in a complete medical inspection of school children, or in infant hygiene work. This permits the employment, in each of these various phases of county health work, of specialists, who, Rankin believes, would be better able to devise and develop effective plans than the whole-time county health officer, who must of necessity be a general man.

Employment of Persons in the Arrested Stage of Tuberculosis. James S. Ford, M. D. Med. Rec., New York, 1916, XC, No. 27.

Ford, who is assistant physician at the Gaylord Farm Sanatorium, believes that employment has been overemphasized as a factor in tuberculosis. Often personal habits or housing or living conditions are the predisposing factors in a relapse for which employment bears the blame. It is a mistake, Ford believes, to take a patient from an indoor position and urge upon him the taking of an outdoor occupation. The only practicable callings are those of canvassers, collectors, teamsters, trolleymen, railroad hands, chauffeurs, watchmen, foremen of construction gangs, and timekeepers; and of these only the three last named can be regarded as suitable from the point of view of exposure to the elements. Long hours, small pay and consequent poor living conditions and worry, however, outweigh any advantage there may be from such outdoor occupation, in Ford's opinion. In fact, he finds that statistics show indoor work to be decidedly preferable. According to the records of Gaylord Farm for the last twelve years, of patients who returned to indoor employment, but 20 percent relapsed; of those who returned to outdoor work, 39 percent suffered relapse; while of those who previous to their illness held indoor positions, but after discharge took up outdoor work, 42 percent had setbacks. The ideal arrangement for patients with arrested tuberculosis, in Ford's estimation, is return to the old employment under medical supervision, beginning with part-time work. Thus the patient is able to try out his strength and to avoid ill effects by gradually adding to his working time under medical advice.

The Mobile Surgical Hospital "City of Milan" in the Field (L'ospedale chirurgico mobile "Citta di Milano" al campo). Dr. G. Solaro. Riv. osp., Roma, 1916, VI, No. 19.

The mobile surgical hospitals were introduced in the Italian army in order to establish a complete surgical service as near the front as possible and to take care especially of the severely wounded, whose transportation might result in grave consequences especially as regards delay in operations. Five such movable hospitals have been established and they have proved a success in every way. They are superior to the ambulance stations of the French army, which confine their work to operations and leave the after-treatment to other units of the field hospital service. It must not be supposed that a mobile hospital is always on the move; on the contrary, it is stationary and is moved to another locality only when severe fighting on another sector of the front renders its transportation necessary. Thus the hospital to which the author is assigned was originally stationed on the lower Isonzo, but when, a few months ago, the Austrians made their strong offensive movement on the Trentino front, it was transferred to that region. The time in which the hospital was taken down, transported to a distance of 150 kilometers and put up again so as to be ready for full service was only twenty-four hours. [A description of these mobile surgical hospitals was given in the November number of THE MODERN HOSPITAL.]

A Controversy Concerning the Number of Nurses in a Hospital. Nosokomos, Amsterdam, 1916, XVI, No. 40.

Complaint was made in the City Council of Amsterdam that at the Wilhelmina Hospital 700 nurses are employed for 1,400 patients. The editor of Nosokomos defends this condition: The complainants forget that in a hospital work goes on day and night, that each nurse has a day free every week, whereby the number of nurses is reduced by one seventh, that the day nurses are on duty from 6:30 a. m. to 8 p. m., that many of the nurses are just learning the profession and cannot be considered full nurses, that many of the nurses are detailed on special duties, in the kitchen, bathing rooms, at clinics and operations, etc. It would therefore be entirely wrong to conclude that a nurse had only to attend to two patients.

Miss Martha Hentschel, a nurse of Kingston, N. Y., has recently given property in Kingston valued at $50,000 for the establishment of a sanatorium for tubercular persons in the garment-making trades of New York city. Dr. Geo. M. Price, a director of the Joint Board of Sanitary Control; Miss Lillian Wahl, of the Henry Street Settlement, and one other person have been named trustees for the institution. The remodeling and enlargement of a building already on the grounds will soon be started, and it is expected that by the first of May at least 40 patients may be admitted. Miss Hentschel is herself a victim of tuberculosis, having contracted the disease while caring for tubercular patients.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH.
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Nursing Organizations in the United States, Their Origin, Purpose, and Some of Their Results

BY BLANCHE PFEFFERKORN, B. S., R. N.

John Calder's definition of organization reads: "The art of so uniting and directing forces as to produce the most satisfactory composite results." Harrington Emerson further adds that "all modern human activity requires organization." Have American nurses recognized and applied the truth of these two statements to their own particular problem? For nursing is, indeed, "human activity," involving as it does the welfare, health, and life of the people. Realizing this fact, and appreciating their social significance, the pioneer nurses early marshaled their forces and united their efforts, that they might carry on their work in the true spirit of the times, "an organized body working for the most satisfactory composite results." The three national organizations, with their resultant achievements, indicate the measure of their success.

The founder and leader of organizations in the nursing profession is Mrs. Ethel Gordon Fenwick. Not only in her own country, but throughout the world, the impulse for group movement was stimulated by this gifted and brilliant young English nurse. In 1893 Mrs. Fenwick came to Chicago to arrange the nursing exhibit sent by Great Britain to the World's Fair. While there she conceived the idea of a nursing congress, to be held at the Fair, and offered the thought to the Chicago women on the World's Fair Board. Later, on her way home, she visited Mrs. Robb, then Miss Hampton, to talk over with her the same probability. Subsequent developments testify that her suggestions bore rich fruit. When the Congress of Hospitals and Dispensaries was organized, a nursing section was included, of which Mrs. Robb had the honor to act as chairman.

Here Mrs. Robb had the opportunity, for which, no doubt, she had been longing, of sharing with her colleagues some of her visions and hopes for the future. Among the subjects presented at the nurses' meetings were: "The Benefits of Alumnæ Associations," and "The Necessity for an American Nurses' Association." In the discussion following the reading of these papers Mrs. Robb said: "We must in time evolve alumnæ societies, an American association, and superintendents' conventions. Our meeting here is the first step; before this congress adjourns we should have a meeting to form a society of superintendents of training schools." That Mrs. Robb was only expressing a need which others felt was evident by the enthusiasm that greeted her remarks. A committee appointed from the nurses present to consider the advisability of forming a "Society of Superintendents of Training Schools for Nurses" reported that such a society would be highly desirable, and recommended rules and regulations for its formation. In this manner, in June, 1893, came into being the American Society of Superintendents, with a no less notable time and place for its birth than the great World's Fair.

Article II of its constitution reads: "The object of this society shall be to further the best interests of the nursing profession by establishing and maintaining a universal standard of training, and by promoting fellowship among its members by meetings, papers, and discussions on nursing subjects, and by interchange of opinions." In 1912 the constitution was revised and the object defined somewhat differently, in order to meet later demands. Its spirit, however, remained essentially the same. To what extent the society has attained this purpose through actual facts will be pointed out later.

When the American Society of Superintendents was organized, its active members included superintendents and assistant superintendents only. With the development of state and local leagues, the old membership requirements were no longer adequate. Necessary revisions, as deemed expedient, have been made in the constitution from time to time. At the 1912 convention the desirability of changing the name of the society was discussed. It was generally agreed that "American Society Superintendents of Training Schools for Nurses" was long and unwieldy, and for various reasons had ceased to serve as an appropriate title. The outcome was the adoption of the term, the "National League of Nursing Education."

One of the first important steps undertaken by the Society of Superintendents was the attempt to excite an interest in a National Association of Nurses, wherein every graduate nurse from a reputable school should be represented through her alumnæ. From its very inception, as shown in the extract already quoted from Mrs. Robb, the society had aimed to stimulate the organization and growth of training school alumnæ. The success of this endeavor is demonstrated by the fact that, whereas at the time of the Chicago meeting less than one-half dozen alumnæ associations existed, in two years the number had increased to thirty-one. Two papers were prepared and presented: one by Miss Palmer at the second annual convention, February, 1895, on "Training School Alumnæ Associations;" the other by Miss Dock, at the third annual convention, 1896, on "A National Association and Its Legal Organization." The first was designed to show that the time was ripe for the beginning of the larger, broader national association; the second, the ways and means by which it might be accomplished.

Following the discussion of Miss Dock's paper, a committee was appointed to call together a convention for the purpose of forming a national organization and drawing up its constitution, and to report at the next annual meeting of the society, in Baltimore, February, 1897. The convention met at the Manhattan Beach Hotel near New York, September, 1896. A constitution and by-laws were drafted for an asociation to cover the United States and Canada. The name at first selected was "The Nurses' Associated Alumnæ of United States and Canada." Later, with incorporation, it was found that the American and Canadian nurses would have to organize separately.

According to schedule, in February, 1897, the committee presented a report, with plans for the new association. Needless to say, it was accepted. Mrs. Robb was elected president; Miss Walden, from the New York Alumnæ, first vice-president; Miss Ambrose, from the Presbyterian, second vice-president; Miss Barnard, Johns Hopkins, secre-

tary; and Miss Healy, Brooklyn City, treasurer. The first annual convention of the Nurses' Associated Alumnæ of the United States took place in New York, April, 1898.

The purpose of the new organization as outlined in the Constitution, was stiff and formal. "To establish a code of ethics, to elevate the standards of nursing education, to become useful and honored" are some of its avowed objects. If, however, any confusion and vagueness existed in the mind of the infant association as to its definite goal, Mrs. Robb speedily cleared the atmosphere in her presidential remarks. In part she said: "A code of ethics is the first object mentioned in the constitution. But it cannot be among the first to be realized. . . . It should stand for deeds and actions, not words and form. Were we therefore to appoint a committee to formulate forthwith a code of ethics, we should get words, but not the spirit." A second keynote to the real business of a national organization was struck by Miss Dock in her masterly thesis on "A National Association for Nurses and Its Legal Organization." In this she states the purpose of a central body to be: "To lay down principles, keep an outlook over the whole country, support ideal standards, deliver messages embodying the object and purposes to be worked for and the reforms to be undertaken." Herein we find an aim not limited by artificial words and form, but capable of alteration and expansion to meet the ever-changing needs of the time. The rapid and natural growth and the splendid work of the Associated Alumnæ are its best proof of taking to heart the words of these two distinguished leaders.

The Nurses' Associated Alumnæ, as has already been intimated and as the name suggests, originated from a union of the existing Alumnæ Associations of Training Schools. It was incorporated under the membership corporation law of New York in April, 1901. With the development of state, county, and city associations, the membership became complicated and duplicated. At present the national organization consists of 233 alumnæ, 50 county and city, and 43 state associations, so a member of an alumnæ society may be several times a member of the central body. Other difficulties, involving legal technicalities, through affiliation with the National League of Nursing Education and National Organization of Public Health Nursing, point to the advisability of reincorporation under a national charter, and some general changes in the component parts of the asociation.

As the state and local associations developed and presented themselves for admission to the Associated Alumnæ, it became evident that some other name must be adopted. The title, "The Nurses' Associated Alumnæ of the United States" no longer defined the organization. Indeed, it was a misnomer. In the articles of incorporation, added to the constitution at the Boston meeting, May, 1911, the name was changed to the American Nurses' Association.

Any account of nursing organizations in America would be incomplete without some brief consideration of state and county societies. Mrs. Robb urged the need of state bodies at the third annual convention of the American Nurses' Association (1900). In two years, four states—New York, New Jersey, Virginia, and North Carolina—had formed state associations and had either secured or were working for state registration.

While the league has been ever active and far-seeing in proposing educational standards and advancement, to which the American Nurses' Association has given its hearty and loyal support, much of the actual "doing" has necessarily devolved on the local societies. The functions of state organizations are: "To provide legislation for registration, reciprocity, training school inspection, and to elevate and supervise the entire field of nursing in their respective boundaries.

The exigency of a national body representing public health visiting nursing was definitely experienced about five years ago. Although a number of local associations had been established as early as 1890, and the movement can be traced back to 1877, when the Woman's Branch of the New York City Mission sent the first trained nurse into the houses of the poor, up to 1912 no attempt had been made to form a national organization. By that time the need of a central body to lay down laws and give advice demanded attention. In January, 1912, a joint committee was appointed by the American Nurses' Association and the National League of Nursing Education to consider and determine methods by which visiting nursing could be systematized and standardized. The work of this committee resulted in the birth of the National Organization for Public Health Nursing. Its first president was Miss Lillian D. Wald.

The purpose of the National Organization for Public Health Nursing, as declared in its constitution, reflects the spirit of genuine social service: "To stimulate the general public and the visiting nursing associations to the extension and support of public health nursing; to facilitate harmonious cooperation among the workers and supporters, to develop a standard of ethics and technic, and to act as a clearing-house for information for those interested in such work." Perhaps the best assurance that this young association will fulfill all that it promises is found in the words on its seal: "When the desire cometh it is a tree of life."

Since the United States is one of the countries whose nursing bodies are affiliated with the International Council of Nurses, it would seem fitting in passing to say a word concerning the history of that organization. Its foundations were laid at the International Congress of Women at the London meeting in 1899. The activity of the Matrons' Council of England had secured a place for nursing on the program of this congress, thus making the first opportunity for an international gathering of nurses. Quick to follow up this vantage, in the same year at the annual conference of the Matrons' Council, Mrs. Fenwick moved "that steps be taken to organize an international council of nurses." Out of this suggestion grew that union which at the present time includes Great Britain, Germany, Denmark, New Zealand, Holland, Finland, India, Canada, and the United States. The first officers of the International Council of Nurses were: president, Mrs. Fenwick; treasurer, Miss Snively; secretary, Miss Dock, who has held that office to the present time.

In summing up some of the more noteworthy results of the work of these different organizations, it is often difficult to give credit separately, as much has been attained through united perseverance. The idea of an advanced course for nurses in teaching and administration originated with Mrs. Robb and was presented to the Society of Superintendents at the 1898 convention. Rapid action followed, resulting in the establishment of the "Hospital Economics Course" at Teachers' College, the Society of Superintendents assuming the responsibility of financing the venture. The American Nurses' Association raised $10,000 toward the necessary funds. Through the generous endowment provided by Mrs. Helen Hartley Jenkins in 1910, the Hospital Economics Course evolved into the Department of Nursing and Health, an enduring monument to the efforts and ideals of a band of noble women.

A second important movement of the Society of Super-

intendents was the promoting of affiliations between different hospitals to form efficient training groups. Little was accomplished in this line until registration was begun; nevertheless the idea was first suggested by Mrs. Robb at the annual convention of the Society of Superintendents as early as 1897. At the meeting in Boston (1896) of the same society Miss Louise Darche proposed the publishing of a journal of nursing. The *American Journal of Nursing*, now owned and published by the American Nurses' Association, was the outcome of this proposal.

The appropriateness of an Isabel Hampton Robb Memorial was discussed at a council meeting of the Society of Superintendents shortly after Mrs. Robb's death. A joint committee to devise ways and means of raising and administering such a memorial was appointed from the Society of Superintendents and the Associated Alumnæ. Later the committee included representation from the National Organization of Public Health Nursing. The result of this issue was the Isabel Hampton Robb Scholarship Memorial Fund, from which at present three scholarships are available yearly, to be used at Teachers' College or in some similar institution.

Among the special activities of the American Nurses' Association have been the collecting of a Nurses' Relief Fund and the reorganization of the Red Cross Nursing Corps on its present sound basis. This latter movement was effected through the concerted action of the American Nurses' Association and certain women prominent in the war relief work of 1898.

The growth and work of the state associations in the past sixteen years has been almost colossal. In that time forty-three state societies have been formed. In each one of these forty-three states registration has been secured. Often the laws have fallen far short of what was sought for, but they at least represent endeavor and a beginning in the ascent to higher planes.

The social value of any organized activity must be measured by its social results. If this test be applied to the various nursing organizations, will their results justify their existence? Has their progress in any degree approached their highly commendable goals, or have they aimed at the skies without even touching the tree tops? If the leaders in the nursing profession were asked such questions they would probably answer: "We are moving forward slowly, steadily, and surely, but there are worlds as yet to be conquered, and while we have barely hit the tree tops, we hope some day to reach the skies."

The National Organization for Public Health Nursing

BY ELLA PHILLIPS CRANDALL, R. N.

The National Organization for Public Health Nursing is a professional association similar in character and purpose to the American Public Health Association, the National Association for the Study and Prevention of Tuberculosis, and the National League of Nursing Education.

Its membership is composed of individuals (both lay and professional) and of associations engaged in public health and social service activities, such as visiting nurse associations, antituberculosis and child welfare leagues, departments of health (municipal and state), industrial corporations and insurance companies.

It concerns itself with progressive development of policies and methods of nursing in their relation to modern health administration, sanitary inspection, industrial welfare, insurance systems, social, mental and school hygiene, infant welfare, and medical social service.

It exists primarily for the purpose of standardization of public health nursing work and workers. To this end it develops and defines standards for organizing, financing, administering, practicing, and reporting public-health nursing. Much of this work is done by standing committees under the guidance of the executive committee. These standards are promoted through cooperation of its own constituents and other public and philanthropic agencies and national associations devoted to civic and social and public-health purposes. It encourages both the demand for and the establishment of suitable post-graduate and undergraduate education for public-health nursing, theoretical and practical. It acts as a bureau of publication and distribution, of advice and information, and of occupations.

It serves its members and others alike through the medium of executive and publication offices, an executive secretary and staff of four full-time and four part-time assistants, a managing editor and publication committee. It issues four magazines and eight bulletins annually. It provides for consultations with its executive secretary at its New York office and, by invitation of local associations, in their own cities or towns throughout the country. It conducts itineraries for her by joint arrangement of associations within specified sections of the country.

Among the national bodies with which it is affiliated are the American Public Health Association, the American Nurses' Association, and the National Conference of Charities and Correction; and membership has been applied for in the General Federation of Women's Clubs. Through the well-organized machinery of these old and established societies, it is able to reach and to inform, to serve and be served by their great constituencies which represent in large measure the essential elements of all public health nursing service, i. e., the promoters, the women's clubs, and social service agencies; the ultimate supporters and directors, the health officials, and the staff workers, the nurses.

When the organization was established in 1912, it found a comparatively new, undeveloped and little-understood field of nursing. It discovered that what was still called district or visiting nursing had grown in ten years from 53 associations and 136 nurses to 1,092 associations or other agencies and a little over 1,400 nurses. The character of their work had changed; emphasis had swung from cure to prevention, from bedside care to health education and protection. It became necessary to find a new name descriptive of the character, purpose, and scope of the new and varied activities, and one which would unmistakably relate them to the modern health movement, in response to whose impelling momentum they had come into existence in rapid succession. Hence, the present-day public-health nurse of whom it has been said: "She is a product of evolution. She has developed from the old-fashioned district or visiting nurse, who visits and nurses the sick, poor patient in his home. She is still that same visiting nurse and also, according to the demands of the community which she serves, a public-school nurse, an infant welfare nurse, a tuberculosis nurse, a hospital social service nurse, a sanitary inspector, a truant officer, a social worker, a visiting dietitian, and even a midwife."

The new organization found these 1,400 workers, for the most part, scattered and unrelated and unacquainted. Almost without exception, the vision of the workers, both directors and nurses, was bounded by their local horizon. There was little or no literature, no common purpose, no great ideal. Few had established any policy or program of development; sound business principles in their manage-

ment were equally lacking and practically nowhere had the work been related to the community health as a whole.

Many and powerful influences have been at work during the past four years and not least among them has been that of the National Organization for Public Health Nursing, which can fairly be said to represent public-health nursing activities of all kinds in 47 states of the Union, of which there are now 2,100 agencies and 5,500 nurses, there being only two states in which no public money is spent by city, county, or state for some form of public-health nursing work. The organization's register numbers approximately 1,700 individual members, and the enrollment of directors and staffs and supporters of its corporate members represents many hundreds more.

It has organized state units in 17 states, and many others will have completed similar organizations before January 1, 1917. It is developing a state council composed of one lay and one nurse member from each state, which has already proved itself an invaluable medium of communication, information, and influence.

It has drafted standard articles of organization, rules nursing for undergraduate students in schools of nursing and has secured for it the unanimous endorsement of the National League of Nursing Education. A committee of its members appointed by the National Association for the Study and Prevention of Tuberculosis has drafted a similar course in tuberculosis education for student nurses which was adopted at the last annual meeting of that association.

It has actively cooperated with thirteen colleges and universities in planning or establishing post-graduate courses for public health nurses and with six state departments of health in developing state programs, which include public health nursing. It has rendered special services to many state antituberculosis associations and women's clubs, municipal and county departments of health and education, and to the Federal Children's Bureau, the National Association for the Study and Prevention of Tuberculosis and of Infant Mortality, and the American Association for the Study and Control of Cancer.

It has drafted standard articles of organization, rules and regulations of administration, and record cards for visiting nurse service. It is at present working out similar record blanks for the various specialized forms, such as tuberculosis, infant welfare, and school nursing and also for financial and statistical reports. It has, through the voluntary work of Miss Yssabella G. Waters, compiled the only complete directory of public-health nursing in the United States and its island possessions, which will appear in book form early in 1917.

It has exercised a constant and strong influence among nurses in behalf of adequate qualification for the work and among employers for salaries calculated to attract the highest type of women. Many associations which formerly would have said, "Do we need a trained nurse?" now write, "We will pay $100 per month and we will wait indefinitely, if we must, but we can accept only a fully qualified nurse." It has availed itself of every possible opportunity to address women's colleges and normal and technical schools for the purpose of interesting larger numbers of educated women, and to the same end, it has made formal overtures to the General Federation of Women's Clubs in behalf of better standards of nursing education and legislation, and the extension of public-health nursing.[1]

The field work of the secretary during the past year involved traveling to the amount of 22,793 miles. A more or less typical visit to a city of average size may include addresses before public audiences in church, city hall, chamber of commerce; before student and graduate nurses; before women's college or normal school, county medical society and teachers' association, and general citizens' meeting; conferences with representatives of all health and social workers, often including health officer, superintendent and medical inspector of schools, with board of directors of visiting nurse association and with public-health nurses.

Some of the immediate results of these visits are reorganization of all public health nursing in a community under a joint committee, thereby strengthening the entire service, saving money and increasing public support; separation of health work from charities;[1] introduction of a fee system; improved standards of work and workers; improved records; better salaries; calls to fill important new offices recently suggested; organization of new associations; many letters of further inquiry; and, occasionally, an urgent call for a return visit within four or six weeks.

The current year has been marked by removal into new and delightful offices, 20 percent increase in the budget, the addition of two new members to the office staff, subdivision of the work into departments, and an enlarged program of work in every department.

The organization is maintained on a membership basis ranging from one dollar to the large annual subscriptions of sustaining members, for which it depends on its two able committees on membership and finance. It is governed by a board of directors, all of whom are necessarily nurses, owing to the conditions of affiliation with the American Nurses' Association. It is highly favored in having the moral support and guidance of its most honorable and honored Advisory Council, the personnel of which is as follows: Prof. C. E. A. Winslow, chairman; Miss Mary Beard, Dr. Hermann M. Biggs, Miss Mary Magoun Brown, Dr. Lee K. Frankel, Mrs. Helen Hartley Jenkins, Miss Julia C. Lathrop, Mrs. William K. Vanderbilt, Miss Lillian D. Wald, Dr. William H. Welch.

Its program for 1917 is in the making, and all its members agree that the future is brighter and clearer than ever before. With the motive found in the words of our beloved Florence Nightingale and the flattering encouragement so generously expressed by our good friend, Dr. William H. Welch, we have no choice but to press forward:

"District nursing is desirable if from a merely economic point of view. It often prevents whole families sinking into poverty and vice, the consequences of which take vengeance on society."—Florence Nightingale, 1870.

"The most distinctive service which America is rendering to the world today in public health is that of the visiting [public-health] nurse."—William H. Welch, M. D.

SMALL HOSPITALS DOING VISITING NURSING[2]

The general assembly of the National Organization for Public Health Nursing, in session at New Orleans, gave serious consideration to a discussion of the growing tendency on the part of small hospitals to send out undergraduates to do visiting nurse work. The Executive Committee have, therefore, endorsed for publication the following letter:

The advent of the public-health nurse as a community servant has brought with it an old evil in modern form. It is an old story that *student* nurses used to be sent into homes for private nurse service, either to swell the income of the hospital, or to supplement the inadequate training available within the institution, or sometimes because graduate nurses could not be had. Whatever purpose was avowed for this obviously unfair practice, it robbed them of larger clinical experience and of necessary supervision, and deprived them of their classes and lectures. All of these were their rights as students, but this fact was ignored and they were used either consciously or unconsciously as free labor by the hospital.

Nowadays, small hospitals in rapidly increasing numbers are essay-

[1]Reprint from Bulletin No. 10 of the National Organization for Public Health Nursing, on the subject of "Small Hospitals Doing Visiting Nursing," is appended to this article.

[1]A statement of the position of the organization on this subject is appended to this paper.

[2]Reprint from Bulletin No. 10, National Organization for Public Health Nursing.

ing to do visiting nursing, apparently for much the same reasons as were proclaimed in behalf of sending students into private homes in earlier days; and, also, as an attraction to prospective students. In other instances there is an honest desire on the part of managers of hospitals to serve the community in the largest possible measure, for the idea of medical social service has permeated all parts of the country and the extension of hospital functions beyond the hospital walls, together with the economy of caring for *convalescent* patients at home rather than in the institution, are interesting boards of directors, both for their economic and their humanitarian values.

Furthermore, boards of education, antituberculosis and infant welfare societies, and visiting nurse associations frequently find it necessary to increase their staffs to meet the growing demand for service and yet lack funds with which to pay more salaries. Therefore they are quick to urge the hospitals to send out their students to meet this public need and to justify their doing so by the assumption that the out-door experience can and ought to be regarded as valuable "training." Both the hospitals and the public health associations are hearing that the word has gone forth from various national organizations that schools of nursing must provide some education for this new field of nursing and must affiliate with colleges, universities and public health nursing agencies in order to do so. Hence many of them honestly believe they are acting in harmony with the progress of the day.

For this very reason, it is imperative at this time to overcome all possible misunderstanding on the part of hospitals, schools of nursing and student nurses, of all interested associations and of the public itself, by pointing out in this connection (as has been done countless times regarding student service in private homes) the radical difference between the status of student nurse practice in visiting or other public health nursing services under adequate supervision (for which the student is carefully graded and credited) and that of either a substitute or regular *free* worker in behalf of a needy cause. In other words, that the school of nursing which can and does add public-health nursing to its *curriculum* and makes it an integral part both of the theoretical and practical *education* of its students is rendering an immediately and universally needed service to its own community and to the country. On the other hand, any hospital or school of nursing which sends out its students, or any public-health nursing association which uses students as free labor is exploiting the student nurse and is bound sooner or later to discredit its own work. We believe that competent instruction and close supervision must be added to public-health nursing *experience* before it can worthily be included in nursing training.

There should be no possible confusion between the affiliations of teaching bodies and the contracts of agencies for work.

STATEMENT OF THE POSITION OF THE NATIONAL ORGANIZATION FOR PUBLIC HEALTH NURSING ON RELIEF-GIVING

The fourth annual convention of the National Organization for Public Health Nursing in New Orleans was distinguished for its vigorous handling of several vital questions, but only one could be said to have taken precedence over that of relief-giving as a factor in public health nursing.

It was naturally raised by the Round Table on Rural Nursing, for it is fair to say that it is not so vexed a question for any nurse in communities where organized charities exist. However, they referred it, in the form of a resolution, to the general assembly, which considered it in larger aspects.

It was clearly the consensus of opinion that where organized charities exist nurses are obligated to limit all relief-giving to that which can be strictly interpreted as emergency relief. It is highly desirable, even in such cases, that it be refunded by the charities, upon formal request of the nursing association.

However, because charity organization societies are often slow to act even where acute illness prevails, and because there still exists honest conflict of judgment regarding the priority in importance of health and social needs, also because there is rarely any recognized source of material aid other than the churches in most small towns, villages and rural communities, public-health nurses are often made responsible for relief as well as nursing care.

Nevertheless, each of these arguments was regarded by the majority as a remediable evil to be overcome as rapidly as possible, in view of the generally conceded fact that relief-giving hampers the health work of the nurse by curtailing her influence and authority in health matters and in the homes and in the community by stamping her as a charity worker and thereby limiting her services to the charity receiving class. So strongly were these facts urged that it was difficult to gain support for a modified resolution, framed particularly in behalf of the rural nurse to the effect that "in communities where no organized charities exist, the public-health nurse shall, whenever possible, effect the organization of a voluntary relief committee through which she will work and which shall be entirely separate and apart from the visiting nurse association."

Status and Standards of Dispensary Practice

The *California State Journal of Medicine* remarks that in the development of the present-day hospital system the growth in size and departments of the out-patient departments has been faster than their growth in efficient methods of practice and administration. There is no doubt that the out-patient department and dispensary have come to stay, and that the growing demand for their services will lead to still greater development and extension in the near future. There is reason for believing that the dispensary will come to be one of the chief agents in public health and preventive medicine propaganda. It has been recognized of course as a feeder for the hospital. But equally important or even more so is its function in following up post-hospital cases both for treatment and for data on end-results. A specialized feature of dispensary practice is its application to preventive medicine. This is exemplified in the infants' milk stations and children's clinics, the tuberculosis clinics and the social service features which are coming into increasing prominence. The dispensary system is being utilized to good advantage, too, by industrial concerns, both for treatment and for prevention.

WEST VIRGINIA'S NEW NURSING LAW

State Proposed to Set Rigid Requirements in Hospitals and Training Schools—Many Institutions May Have to Close

As the state legislature is about to meet, we are trying to whip into shape the suggestions approved by the hospital association of the state and the Graduate Nurses' Association, making a more effective law to control the registration of nurses and providing some inspection of the schools of the state; in short, instead of having a board of six doctors who once a year meet and examine the persons who present themselves, with practically no restrictions whatever, we are setting forth certain restrictions, such as, no one may take the state board examination who does not come from a recognized hospital. A hospital to be recognized must, first, have a three-year course; second, it must not send out its pupil nurses for private duty; third, it must comply with certain detailed requirements regarding the subjects taught and length of course, etc.

Then the board is directed to employ a graduate nurse as permanent secretary, whose business it will be to keep its records and to make regular inspections of all of the schools for the training of nurses, as well as the hospitals in connection therewith in this state. The proposed legislation has the approval of the present board of examiners; in fact, it is being prepared partly at their suggestion.

The funds for the support of the permanent secretary will be obtained from the registration fees and an additional fund to be provided by the state. Heretofore the board had not been allowed to use the surplus obtained from the registration fees for any purpose connected with the hospitals, but had been required to turn it over to the general fund of the state.

For those schools unable to provide a complete three-year course for their nurses, a provision is made that after having given two years, they may send their pupils to complete their course in a hospital of approved standing. In fact, it will be required that the special hospital giving a course of training send pupils to an approved hospital for a completion of their course.

There is considerable likelihood that the state hospitals known as Miners' Hospitals Numbers 1, 2, and 3 will come up for some legislation, just what we cannot yet tell. Many of the privately owned hospitals are determined they shall be legislated out of existence. My personal opinion is that instead of being emergency hospitals they may be turned into hospitals for some special diseases.

PLINY O. CLARK, Field Editor.

In a report soon to be presented by the Oklahoma State Board of Education to the state legislature it will be recommended that an appropriation of $200,000 be made for the erection and equipment at Oklahoma City of a general hospital to be maintained by the state primarily for the benefit of persons of small means who need hospital treatment. The plan provides for a graduated system of fees to fit different degrees of financial ability. Indigent patients would be cared for without charge. Physicians generally are supporting the movement, it is said.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

Cooperation With the Dietitian

Miss Smedley's able management of the school luncheons of Philadelphia has given to the school children of that city such great benefits that we wish everyone might know it. Probably in no other city is there such a systematic and in every way satisfactory working out of the school luncheon problem. Reading Miss Smedley's account of what she is doing will convince one that this is true, though she is very modest about it. Dr. Garber has set a very high mark for the school dietitian, and we suspect that his own school dietitian is the standard which he is asking the others to attain.

Everything that Dr. Garber says in regard to the school dietitian is equally applicable to the hospital dietitian. In the field of preventive medicine, or treatment, there is almost no limit to the things that might be accomplished by close cooperation of the dietitian, the physician, and the visiting nurse or dietitian, for home teaching.

The Cooperative School Luncheon System of the Philadelphia Board of Public Education

BY EMMA SMEDLEY, Director.

Educators realize more than ever before in the history of education the importance of physical factors in the education of the child. Consequently the modern school house is better lighted, better heated, and better ventilated. Medical examination of school children has done much in preventing the spread of contagious and infectious diseases and in correcting ocular, oral, and nasal defects. There is still one important factor in the physical development and mental efficiency of the school child that has not received all the attention to which it is entitled—the subject of school feeding.

In Philadelphia the high school sessions are from 9 until 2 o'clock; therefore the need of provision of lunch is obvious. This holds good also in many of the elementary schools, the special classes all having a session from 9 until 2. The distance of the home from the school is to be considered, as many homes are at such a distance that there is not enough time for the child to go home, eat its lunch and return in time for the afternoon session. In many homes in certain sections of the city there is no provision made for the noon luncheon because the parents go to work early in the morning and do not return until evening. In a recent investigation made by the Department of Superintendence in one section of the city, it was found that 8 percent of the children came to school with no breakfast and 60 percent with insufficient breakfast, therefore it seems incumbent upon the school to provide some means whereby the children may secure wholesome food while at school with the pennies given them by their parents.

In 1909, when the William Penn High School was opened, the principal, Dr. Herrick, dissatisfied with the old type of lunch counter run by the janitor then in vogue in other high schools, appealed to the Board of Education and received permission to try a luncheon experiment

Fig. 1. Typical Philadelphia elementary school lunch room. Supply closet, counter with wire screen in front, tables and benches all made by boys in manual training classes as regular class work. Sink, stove, and cooking utensils supplied by Board of Education. One woman worker at school, and children assist with serving at counter.

which should be under the control of the school. The work was begun under the care of a committee of the Board of Education, consisting of the chairman of the committee on high schools, one other member of the committee, the principal of the school, and one of the teaching staff. A trained dietitian was selected as superintendent of the luncheons and was given authority to engage assistants, purchase food supplies and arrange the selling prices to cover the cost of the food and service. The Board of Education provided the lunch room, light, heat, gas for cooking, and the necessary equipment.

At the beginning of the following school year the board declared the work no longer an experiment and extended it to include several other schools. In 1912 the board

Fig. 2. Typical Philadelphia high school kitchen, showing electrical equipment, steam cookers, range, fireless cooker, and gas oven. Noonday meal provided from this kitchen to 2,500 persons.

recognized the work as an important educational movement and established a Department of High School Luncheons to include lunch service in all of the high schools. In the meantime a committee of the Home and School League was conducting recess lunches as an experiment in nine of the elementary schools, and in May, 1915, they reported to the Board of Education that they had successfully demonstrated the necessity for and the practicability of a luncheon system, but realized that such a system could not be successfully carried on by an organization apart from the school management.

Therefore, prior to the summer vacation of 1915, upon the recommendation of the Department of Superintendence, the Board of Education authorized the continuation of this work and the establishment of a lunch service in twenty-five additional elementary schools, all under the supervision of the Department of School Luncheons. The director of school luncheons was also invited by the principals of several additional schools to assume control of the lunches which had been conducted independently by the teachers in their schools. Consequently during the past year the Department of School Luncheons has directed the provision of morning recess and noon luncheon in about fifty schools, with the result that approximately fifteen thousand pupils in the high schools and about thirty-three thousand pupils in the elementary schools spent $150,000.00 for clean, wholesome, palatable food, well cooked and attractively served. Of this, 66 percent was expended for food, 32 percent for supervision and wages, and 2 percent for repairs and replacing equipment.

The practical result of the school luncheon is made manifest in the increased mental activity of the pupil. His working efficiency is closely interwoven with his health and his health with the kind of food he eats. The ill-nourished child is a poor subject for education, and as hundreds of thousands of dollars are spent each year upon that education, it becomes an important economic duty to secure the best possible results by supplying the necessary material for growth of a strong, healthy body. To quote from a recent report of Dr. Garber, superintendent of the schools:

"The evident benefits from the luncheons in the elementary schools have been so great that, as rapidly as they can be established upon a self-supporting basis, the system should be extended to all of the elementary schools. If for no other reason, this should be done to protect pupils from unripe and decayed fruit, the impure candies, and the generally unsanitary lunch material which they will otherwise purchase from street venders.

"In order that the school lunch may attain the maximum of service there must be hearty cooperation between the faculty of the school and the school dietitian; therefore her training and personality are very important. She should be a person of broad views and wide sympathies—

Fig. 3. Typical lunch room in Philadelphia high school, showing counter in distance, with steam-heated closet for dishes, and menu board above counter. Swinging stools under tables. Noonday meal is served here to 2,200 persons.

a college education is desirable, though not absolutely essential. She must, however, have a thorough training in food values, and in the principles of nutrition—she must know how to cook food well, and to serve it attractively.

"The dietitian must have business ability. She must be able to 'strike a good bargain' and to arrange the selling prices of the foods so that she may be able to meet all expenses from luncheon receipts. Much depends upon wise buying. A bad purchase may lead to the curtailing of expenditures in other important departments where saving is dangerous.

"The dietitian needs an inexhaustible fund of good humor. A smiling countenance does much to relieve the tension in many trying situations. She must have poise, be quick to act and ever ready to meet an emergency. Above all, she must have a love of human nature and be a living embodiment of tact. In dealing with food we are likely to come in contact with human nature 'in the raw,'

and it sometimes requires all the finesse of which one is capable. She must be able to meet all types of people and be equally at home with the delivery boys, the janitors, the children, and the faculty of the school.

"One of the problems facing the school dietitian is the general lack of knowledge of food values and the family prejudices in regard to food entertained by her patrons. Under these conditions she must be watchful lest she yield to popular opinion and forget that she is an educator and a missionary as well as an administrator.

"It is her duty not only to teach the children to avoid unwholesome foods, but she has the greater task of training them to enjoy the many varieties of food at our command.

"Ignorance in regard to food value and the cost of food and the cost of cleanliness is often the cause of criticism and of lack of cooperation on the part of the faculty, and it is the work of the dietitian to gain their cooperation, for the school and the community will never reap the deepest

Fig. 4. Staff of dietitians of the Philadelphia School Luncheon System.

educational or social benefits that the lunch room may afford until the faculty of the school awakens to its possibilities and cooperates heartily with the dietitian."

The story of this cooperative system of school luncheons under the control of the Philadelphia Board of Public Education is graphically shown by means of motion photography. The picture consists of five reels of noninflammable film representing different phases of the entire luncheon system. It has been prepared with the idea of conveying to educators and to the public in general the necessity for the wholesome school lunch, and the method of successfully conducting this self-supporting system in Philadelphia.

The Chemical Composition of Commercial Glucose and Its Digestibility

BY DR. J. A. WESENER AND PROFESSOR G. L. TELLER of the Columbus Laboratories, Chicago, Ill.

[Continued from the January issue.]

In our work on glucose, referred to in the preceding articles, we have determined, by calculations based upon their quantity as determined by reduction and upon the amount of gas developed by fermentation with yeast, that the fermentable reducing sugars are a mixture of maltose and dextrose. The amount of gas thus produced is too large to allow the fermentable sugars as determined by reduction to be calculated wholly as dextrose and too small to allow their being calculated wholly as maltose. With different lots of glucose the relation of the maltose to the dextrose and the amounts of each will vary to some extent. Determinations on two samples show 11.7 and 17.2 percent of dextrose and 22.9 and 16.4 percent of maltose, respectively.

Further researches led to the conclusion that at least three reducing bodies are normally present, namely, maltose, dextrose, and a third, which is less readily fermentable by ordinary bakers' yeast, but which may be made fermentable by the action of certain enzymes, especially those present in pancreatin, Taka-Diastase and malt, as well as the hydrolytic action of dilute hydrochloric acid under the influence of heat. These difficultly fermentable reducing bodies amount to about 14 percent of the total glucose when calculated as maltose, or 8 percent when calculated as dextrose. The unfermentable carbohydrate residue remaining after removing the maltose and dextrose by fermentation consists of those bodies commonly recognized as dextrins. These, like the unfermentable reducing bodies, when subjected to hydrolytic action by diastase result in products which will under suitable conditions undergo almost complete alcoholic fermentation. When they are subjected to the hydrolytic action of hot dilute acid, applied either to the unfermented glucose or to the residue left after the glucose has undergone alcoholic fermentation, all of these bodies become wholly fermentable.

Cold water extract of malt as the source of diastase was found less suited for the purpose than pancreatin or Taka-Diastase because of the larger proportion of unfermentable bodies which it contained and introduced into the products of fermentation.

It was found that a good quality of Taka-Diastase converted the unfermentable products into fermentable sugars, leaving only a very small amount of unfermented residue, which contained as reducing sugars less than 1 percent of the glucose taken. In the most favorable instances the total unfermented residue amounted to from 4 to 5 percent and included normal products of fermentation, notably succinic acid and possibly some glycerin, which always results from the fermentation of sugars by yeast. The diastase present in good samples of pancreatin and in the cold water extract of malt in like manner converts the unfermentable residue of the glucose into fer-

mentable sugars, but in some instances less completely than does Taka-Diastase.

In these experiments it was found that the kind of yeast used had a considerable influence upon the completeness of the fermentation of the products produced by the action of the several diastases.

Isolated ferments like pancreatin and Taka-Diastase lose their activity with age, and when these weakened ferments act upon glucose the result of the decreased vitality is a decreased proportion of immediately fermentable sugars, with an increased proportion of the unconverted dextrins and of the intermediate unfermentable reducing carbohydrates or reducing dextrins. These conditions are also clearly apparent where weakened pancreatin or weakened Taka-Diastase or a limited amount of diastase acts upon starch of various kinds. The apparent results of such action are an extended series of products, including the well-recognized dextrins, unfermentable reducing bodies (apparently reducing dextrins), maltose and dextrose. The fact that the first bodies in the series are found to a limited extent only when there is a sufficient amount of the active diastase present, but are abundant when there is a limited amount present, indicates that they belong to a natural series of changes between starch and dextrose. The results of our examination of glucose and of the products of the combined action of diastase and yeast upon glucose, indicate that all the bodies of this series are normally present in glucose which is produced by the incomplete hydrolysis of starch by acids, just as they are present in liquors containing the products of the incomplete hydrolysis of starch by diastase, and that these bodies in glucose yield to further treatment with diastase, just as do those produced by diastase itself. From these facts it is apparent that the claim for the presence in glucose of unfermentable reducing bodies as reversion products brought about by the action of the acids at a high heat is untenable.

A study of the action of hydrolytic agents and yeast on carbohydrates entering into common foodstuffs, such as potatoes, breakfast cereals, bread, and so forth, and upon pure starches, such as are found in these various food products, has been made in comparison with parallel experiments on glucose. In these experiments it was found that the carbohydrates of glucose agree closely in gas production with the carbohydrates of the more readily digestible foodstuffs, such as white bread, breakfast cereals and potatoes. It was also found that these several carbohydrates, when acted upon by isolated ferments and yeast, as in the experiments conducted, yield variable but appreciable amounts of unfermentable carbohydrate products, just as the mashing of cooked starch with malt diastase in the making of malt liquors results in a liquor which, after fermentation, contains appreciable quantities of such unfermented and apparently unfermentable carbohydrate products.

The fact that commercial glucose, when it is treated with diastase and then subjected to yeast fermentation, is almost wholly converted into alcohol and carbon dioxid goes to prove that it consists of products that are wholly assimilable and, therefore, it furnishes a food to the body of a sugar nature. In this respect it is a more concentrated and at the same time a more readily assimilable food than are most of the carbohydrates belonging to the ordinary foodstuffs which first have to undergo cooking and then complete hydrolysis by the action of the digestive enzymes before they can be utilized by the body. In this respect glucose, pound for pound of dry weight, will furnish at least as much energy as does cane sugar.

SOCIAL HYGIENE VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary, The American Social Hygiene Association.

Please address items of news and inquiries regarding Social Hygiene to the editor of this department, 105 West Fortieth street, New York City.

Recent Public Health Activities of the New York Social Hygiene Society

BY F. J. OSBORNE, Executive Secretary New York Social Hygiene Society.

HEALTH EXHIBIT FOR MEN

The latest and most far-reaching educational experiment for the reduction, diagnosis, and treatment of venereal diseases was the men's exhibit held at Coney Island during the past fall. This exhibit was prepared by the New York Social Hygiene Society cooperating with the American Social Hygiene Association, the genitourinary department of the Brooklyn Hospital Dispensary, the New York City Health Department, and the Public Health Committee of the Kings County Medical Society.

This exhibit is based on the same psychology which has made it possible for medical institutes and quack doctors to flourish. Many of these doctors formerly maintained, and some maintain even to this day, anatomical and medical museums which served as feeders for the doctors' private practice, it being recognized that the most opportune time to supply medical advice and treatment is when the demand, either real or imagined, has been aroused by viewing the display of models, illustrations, or other exhibit material which may bring questions of sexual weakness, impotence, or actual infection forcibly to the mind of the visitor. Realizing that much of the information contained in the ordinary quack museum is inaccurate, exaggerated, and morbid, we have attempted in our exhibit to replace much of the ignorance and misinformation with actual medical facts, both individual and social. By showing by parallel series of color pictures the cause, treatment, and possible results of these diseases, we have succeeded in putting forth a message of real enlightenment on these subjects which could hardly be done as effectively in any other manner.

By also paralleling proper with improper treatment of these infections we have done much to make these men realize that gonorrhea is a real disease, curable only by early and conscientious treatment, and with the most deplorable results to the individual and his family if treated with indifference and neglect. We have likewise pointed out the same lesson in the care and treatment of those infected with syphilis. We have endeavored to replace the imperfect treatment of this disease on the one hand and the utter abandonment of hope of ever again being cured on the other with the scientific and latest medical knowledge which says that this disease is also curable if taken in hand in the early stages and treated persistently under the care and guidance of a reputable physician.

One of the most interesting charts in the exhibit is that composed of quack signs taken from public toilet rooms around the Island, with the admonition to "avoid those doctors who advertise to cure you," and with a list of fake, false, and misleading statements culled from these same signs. On other charts warnings against illicit intercourse with prostitutes are set forth; the four famous sex lies are displayed; diagnostic, advice, and treatment posters and placards from local and state boards of health from all over the country are presented; and the organisms, carriers, and the sufferers depicted. Along with these are two charts containing the latest

Fig. 1. One of the health exhibits for men.

statistics on these two diseases compiled by the New York Health Department.

One of the most notable instances of thoroughgoing cooperation ever enjoyed by this society is that of the Brooklyn Hospital Dispensary staff, who are supplying the advice service in connection with this exhibit. Already, during the first month, 110 men suffering either from recent, acute infections, or from old, chronic conditions, have applied for advice, blood tests, and treatment, and have been referred to that clinic approved by the health department situated nearest their homes.

During the first month of this exhibit, July 21 to August 30, inclusive, 11,521 men visited it, each of whom was supplied with literature furnished either by the American Social Hygiene Association or the health department.

We feel that this exhibit is filling a long-felt need, and expect to move it around the city during the coming winter, and have hopes of having it reproduced, either photographically or by lithography, in order that every section of Greater New York may be reached.

SOCIAL SERVICE WORKER

Another interesting experiment of the society is that of cooperating with the New York Hospital to supply a social worker for follow-up work in their syphilis clinic conducted by Dr. James Kent. It is fast becoming known that to treat these diseases only medically and purely from the point of view of the infected individual is short-sighted and solves only a part of the problem. The family and society have certain rights in connection with any campaign of control of the infected and prevention of the spread of these diseases, and a tactful, earnest social service nurse or worker should prove most valuable in aiding the dispensary physicians in holding the individual to treatment, in home instruction, in establishing cooperative contact with other organizations, by encouraging other members of the family to be examined, and, if necessary, to undergo treatment, and by verifying the source of infection in order that steps may be taken to eliminate known foci. Much valuable information is expected from this cooperative experiment.

DISPENSARY INVESTIGATION COOPERATING WITH THE HEALTH DEPARTMENT

Another matter just being taken up in cooperation with the venereal disease advisory committee of the health department is the investigation of clinic facilities and methods of treatment employed in these clinics. The question has been raised whether the already existing clinics are in a position to handle the venereal problem of the city adequately, and, if it is proved that they are not able so to do, either because of there being too few clinics or their methods of treatment not being effective, the department will be requested to take under consideration methods of licensing and control of these clinics.

CAMPAIGN AGAINST QUACKS AND THEIR ADVERTISEMENTS

The campaign against quack advertisements is also under way. The recent decision of the Oregon Supreme Court upholding the Oregon law which prohibits the pub-

Fig. 2. Another of the health exhibits for men.

lication of advertisements regarding medicines for the cure of venereal diseases, or intended to imply that the advertiser could cure such diseases, leads us to hope that public opinion, and through it the legislative bodies, are in the proper frame of mind and sufficiently informed to enact such a law even in the conservative East, and steps have already been taken to this end. In short, the society is embarked on a well-rounded public health campaign, realizing that until ignorance and indifference have been supplanted by facts and scientific public health knowledge, no hope for the ultimate control of these diseases is possible, and these measures, supplemented by sane, carefully prepared lectures, with circulation of authoritative literature, are looked to with increasing confidence as the approved methods of combating venereal infections and establishing a rational sex life.

The Providence Hospital, Oakland, Cal., hopes to erect new quarters in the near future and toward this end will open a campaign about February 15 for a building fund of $150,000.

INDUSTRIAL WELFARE

WELFARE WORK IN AGRICULTURE[1]

* * *

The United Shoe Machinery Company Applies Efficiency and Economy to Its Broad Acres in Beverly for the Welfare of Its Employees—Every Man His Own Gardener

BY WILLIAM H. WALSH.

If you would see a practical example of welfare work, of economy and efficiency as applied to farming, come out with me to Beverly, and to the broad acres at the back of the United Shoe Machinery Company's factories, where upwards of 150 gardens are now in a fair state of cultivation and "fit for the harvest." These farms—or, to be more precise, gardens—cover about 350,000 feet of the company's land, and occupy the greater part of the island-like territory lying east of and adjacent to the big shops.

Fig. 1. Officers of the agricultural division. Top row, left to right—Edwin McGill, director, 1915-16; M. S. Demeritt, secretary-treasurer, 1915-16; H. B. Ellis, president, 1915-16; W. H. Titus, vice-president, 1915-16. Lower row, R. C. Simmons, director, 1915-16; A. H. Davenport, director, 1914-15; A. H. Woodward, director, 1915-16.

They belong to the employees. In other words, the company, to carry out its policy of intensified cooperation between employer and employee, every year allots certain portions of land for cultivation. It does something more. It prepares the land, putting on manure, ploughing and harrowing it, and charging the holder the bare cost of the labor. The plan of allotment is very simple and eminently fair, giving to every "farmer" employee 2,500 square feet of land. This year, for example, the number of gardens actually allotted and cultivated is 140, or nearly double that of a year ago, showing the ever-growing interest which is manifested in this branch of the service.

As far back as 1911, although the idea of allotment had its inception and was in actual operation for several years previous, certain of the gardenholders got together and formed a Gardeners' Club, with R. C. Simmons as president and Harry Ellis as secretary. Then, in September of that year, when the first "Sam Sam" was held, the show of vegetables and flowers was so attractive that it has been a feature every year since. This spring Mr. H. B. Ellis was elected president, with M. S. Demeritt as secretary and treasurer, and they both have worked so faithfully that, despite the rainy weather and the consequent difficulty of raising and harvesting, the results have been for the most part satisfactory.

It was predicted with reasonable assurance of fulfillment last spring that, with favorable weather, a banner crop would be had, but the continuous wet weather for July and August gave the farmers their full share of trouble and greatly reduced their average of production. Still, in some individual cases the crops have thriven wonderfully, owing, of course, to the special care, muscular enthusiasm, and responsive brains of the particular farmer.

Fig. 2. Looking east across the garden of M. S. Demeritt. This represents the second crop of cabbages, brussels sprouts, beans, and celery after harvesting a crop of peas, early beats, and early beans. The foreground shows a crop of late vegetables.

"The whole trouble with some of our farmers," said Mr. Demeritt, "is that they don't put the necessary patience and enthusiasm into this work. They seem to think that all they have to do to raise a good crop of beans or potatoes is to seed the ground and then forget it until it is ready for harvesting. If they tend it at all, it is in a half-hearted way, and, of course, it is not a bit surprising that their crops are small or a failure, whereas the one next to theirs may be in a flourishing condition. But there are not many of that kind, and the only reason I mention them is to prove that it takes brains to run a garden as much as is required for bookkeeping or any other form of mental effort. Indeed, from my experience I am not sure

Fig. 3. Garden of Egidio Romani.

[1]This article was submitted in September, at harvest time.—EDITOR.

that the accounts of a farm are not every bit as complex as those of a store, or, for that matter, of a factory. You see there is always so much of detail that comes directly in the matter of household expenses. And just here is where the wife comes in, and, if she is so inclined, she can be of immense assistance, not alone in caring for the garden, but in the harvesting and economical part as well. Take, for example, my own wife, who is as enthusiastic about the little farm as I. She comes here and sees to it that the potatoes, beans, brussels sprouts, and other vegetables are coming along all right, and then she knows just when and how to pick them for the table without wasting

Fig. 4. Garden of W. H. Titus. Mr. Titus is considered one of the most successful gardeners at the factory, and he is proving to the "boys" this year that he knows how to raise celery.

any. I have been able to harvest my crop of potatoes already this year, and to plant a big bed of brussels sprouts and several rows of celery in their place. There, you perceive, is what can be done with the proper amount of patience and elbow grease. I figure that I will have all my vegetables for the table this year for nothing, and that my garden will have yielded me about $30.00. Of course much of my success is due to experience and the correction of the mistakes of previous seasons. This spring I went about my farming systematically. In the first place, I measured the piece of ground allotted me, got the exact width and length, made a sketch of my plot, and laid it in rows to correspond with what I wished to plant. I was at particular pains to go over every foot of the land with my rake to secure a fine seed bed, as well as to destroy all the weeds in embryo. Next I drove stakes to correspond with the space allotted each variety of vegetables to be planted. The advantage of this was obvious, for it obviated any chance of wasting space, and did away with the possibility of guesswork planting.

"From the time of seeding on April 19, clear to the harvest, my Garden Bountiful, as my wife loves to call it, took up about all our leisure time, and we have had more real pleasure from it than I can tell you, not to mention the enjoyment of having fresh vegetables for the table and the satisfaction of knowing they were of our own cultivation.

"Then, again, it is some satisfaction, and I suppose I may be excused if I say that I took a great deal of pride, in having been awarded the first prize at the Sam Sam exhibition. On arranging the vegetables, a few of each kind, I then fully realized what a varied lot of good things one can raise on a 2,500-foot piece of ground.

"It may be interesting to say that we expect to lay away for winter use not less than seventy-five quarts of canned vegetables. The credit for the canning rightly belongs to Mrs. Demeritt, who managed to secure the second cash prize at the Sam Sam on preserved fruits and vegetables."

This year, for the first time, the members of the agricultural division decided that prizes should be given among the gardeners, and $60 was subscribed by the members for that purpose. Immediately it was seen that the prize scheme meant a keener interest in the farming and a lively competition, with the result of a highly satisfactory display. In addition to the vegetables raised, there are numerous flower beds around the employees' homes, which are planted and tended by them, and the prizes were made to include these as well as the vegetable plots. This agricultural and flower show at the Sam Sam was open to the public to exhibit, and all small garden growers had an equal chance, but, notwithstanding, the best displays shown were by the United Shoe Machinery Company employees.

It is a curious fact that the Italian gardener on those plots seems to get the most out of the land, particularly in the matter of certain kinds of vegetables—as, for example, snake beans, tomatoes, peppers, and kale. Perhaps the reason for this is that these immigrants, brought up to farm work as they have been across the ocean, are thoroughly experienced, and, moreover, the practice of working in the fields is a custom to which the women of Italy, Syria, and Poland are used. At any rate, it is a fact, demonstrated almost any day at the United Shoe Machinery Company's farm, that scores of the Italian women are to be seen settling down to work weeding, planting, and transplanting with a thoroughness that is truly remarkable. The Italian gardener cultivates his plot very thoroughly, working the soil deeply, using extra fertilizer and manure water early and late, and stirring up the soil to the utmost. Sometimes a whole family may be seen working together. It is noticeable, too, that he very

Fig. 5. Interior of the locker house. Here the gardeners store their tools, working clothes, etc. About twenty of the gardeners assembled one Saturday afternoon and set up all the lockers—and "it was some job."

rarely plants a considerable variety of vegetables, confining his cultivation to tomatoes, corn, beans, peppers, and kale, hardly ever planting potatoes. He is a great economizer of space, planting oftentimes two rows of a vegetable where it would seem there is room for only one to grow, and so making the most out of his garden. An interesting thing in this connection is that many of the Italians still cling to the old-fashioned superstition that, in order to get a good crop of corn or tomatoes, it is necessary to do the planting only at the full of the moon. They who believe in this will shake their heads when they notice the Americans planting at other times. The average

Italian grows his vegetables tall, and for this reason probably raises more to the square yard than does his neighbor, the Yankee. As one of the American farmers remarked, "When it comes to working the soil, he gives as much attention to it as a mother would to her child."

The garden of Egidio Romaniis is as fine an example of the truth of these statements as any. It shows conclusively what can be accomplished when it comes to tilling the soil, and, as an illustration of the Italian methods of gardening, it is without a peer. With a soil that is naturally light and devoid of the necessary moisture-retaining properties, he has by constant labor brought his garden plot to the highest possible state of cultivation and fertility. Daily during the summer months he can be found at 5 o'clock in the morning busily hustling in his garden. So it is until near 7, and then, after a hard day's work in the foundry, the call of the garden keeps him until dark, hoeing, weeding, carrying water to supply the much-needed moisture and revive the drooping plants, and giving them such attention that it seems almost like devotion. The other gardeners wonder at it, and simply applaud him, without fully understanding how he manages to get such maximum returns—such a bountiful harvest.

The vegetables grown in the average garden are such as are the most needed for domestic consumption, such, for example, as potatoes, beans, peas, corn, beets, cabbage, onions, carrots, turnips, brussels sprouts, lettuce, tomatoes, cucumbers, parsnips, summer and winter squash, celery, spinach, salsify, kale, peppers, melons, and pumpkins. This list includes about everything grown on the farms, and is sufficiently varied to show the different tastes of the gardeners.

It is interesting, indeed, and sometimes humorous, to watch the struggles of beginners with their gardens. For the most part they are very enthusiastic in their undertaking, and start off willing to do no end of labor to insure a successful harvest; but in the majority of cases they soon tire of the "grind" of planting and weeding, and manuring and watering, and it is there that the want of thoroughness and systematic planting is most surely obvious. Also, it is there that the Italians have the advantage, for they go about the work always with a thoroughness that is remarkable. Weeding, for illustration, is a task that the average man dislikes as much as anything about the farm, but it is one that demands continuous attention, and, if it is neglected, the crops will inevitably suffer.

In the seeding, too, the utmost skill in the selection and planting are necessary, and it is here that the ignorance of the average beginner shows up very clearly. As an instance of what will sometimes happen if due care is not taken in the selection of seeds, one of this year's gardeners purchased what he supposed was a collection of short and long radishes, and proceeded to plant and cultivate them. He watched them as they gradually appeared above ground, and the looks of them soon satisfied him that they were not radishes, and to him they looked for all the world like a luxurious weed. He accordingly asked one of the other gardeners what kind of a vegetable it was, and told him that he had ordered radish seeds. "Why, my man," said the farmer, "ye ain't got no radishes there. Them's cabbages, or I'm a lobster." The result was that the beginner pulled up all his plants, and then had the discomfiture of being afterward told that he had destroyed an excellent bed of brussels sprouts.

Recollect that the work in those gardens for the most part is done by the employees themselves at such times as they can spare from their labors in the factories. On a Saturday afternoon or a holiday the landscape is dotted with those busy gardeners, and they seemingly take the greatest delight in their self-imposed labor. Some of them are genuine farmers, and to all such the head gardener, as well as the officers of the agricultural division, give the greatest encouragement. It is a matter of pride to see how much they can raise in a season, and the matter of rotation in crops accordingly receives a lot of individual attention. They plan the gardens so that from the time of the first planting until the frost the entire piece of ground is at work producing edibles.

In this connection a word from Mr. James R. Tappan, the head gardener, may not be amiss. He is himself a thorough believer in the idea of the farms as something calculated to benefit the workers, and as an excellent illustration of the company's policy of cooperation between employer and employee.

"We don't want any make-believe gardeners here," said Mr. Tappan. "When a workman applies for a garden, and it is allotted to him, he is supposed to take care of it; and not only the plot, but the walks around it. If he neglects to do this, the chances are against his being able to get a plot the following year. Of course we are reasonably careful about the allotments, but we mean to be strictly fair and liberal, depending on the efficiency of the holder of the piece of ground for the returns. In the matter of the individual profit from the land, I should say that, granting about the average efficiency, with the rotation of crops, each farm should show a net profit of from $20 to $30."

Much of the credit for the success of the gardens is due to Mr. Tappan, who is the "outside man" at the company's plant, and who sees to it that the grounds surrounding the factories are kept in order.

It is a truism that where you find a man who loves flowers, you almost invariably find an honest man. That being the case, the farmers at Beverly may be put down as model citizens, for they are, without exception, enthusiastic lovers of flowers. Every year the company heightens their interest in flowers by a liberal distribution of plants from their extensive conservatories.

Not a little enthusiasm and some keen competition was engendered this year by the announcement of cash prizes at the Sam Sam celebration for the finest display of vegetables and flowers and fruits, as well as fancy work and poultry. These prizes were in addition to the regular premiums, of which there was a far greater number.

Mr. Demeritt reports that the number of employees of the United Shoe Machinery Company who subscribed for gardens this year, and who actually worked in them and secured a crop, was 150, the greatest number thus far in the history of the association. The cash prizes which were subscribed by the members amounted to about $150.

The erection of five tuberculosis wards for the Los Angeles County Hospital, Los Angeles, Cal., will be started at an early date. Each unit will consist of two one-story wings, each 44x150 feet. An inclosed corridor 10 feet wide and 1,100 feet long will connect all of the new structures with the administration building of the County Hospital. A section of the roof of each wing will be movable, being carried on separate steel trusses and operated by electric motors.

It has been announced at San Diego, Cal., that E. W. Scripps, head of the United Press and the Scripps list of newspapers, will donate $250,000 to found a diagnosis clinic and a hospital in that city.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.,
Director of the Boston Dispensary.

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

The Growth of Dispensary Work[1]

The committee is glad to be able to present to the association an encouraging report of progress during the past year. We do not mean the progress of the committee, but the progress of dispensary work.

We were charged, among other duties, with the task of preparing a list, as complete as possible, of the dispensaries and out-patient departments in the United States. We already had a list of about 400 institutions having dispensaries or out-patient departments. We sent out reply postal cards to 1,500 hospitals, these being practically all the public hospitals in the United States, with the exception of 500 from which we already had information. Of the 1,500 to which postal cards were sent, 600 institutions returned the reply card, and 200 of these hospitals maintained out-patient departments and 400 did not. Of the 900 that did not send back the reply postal cards, probably the majority had no dispensaries, which is merely a guess.

Table I gives the results of our inquiry, including both the dispensaries previously known and those ascertained through the postal card canvass. By out-patient department we mean a dispensary which is part of a hospital, and by dispensary an institution which has no hospital—merely out-patient clinics.

TABLE I. DISPENSARIES AND OUT-PATIENT DEPARTMENTS IN THE UNITED STATES, 1916[2].

	Known	Additions estimated	Total
Treating general diseases—			
Out-patient departments of hospitals	495	150	645
Dispensaries unconnected with hospitals	185	70	255
	680	220	900
Treating special diseases	60	40	100
Public health dispensaries—	In 1904		In 1906
Tuberculosis	20	.....	500
Baby hygiene	0	.....	400
School children	0	.....	250
Psychiatric, dental, etc.	0	.....	150
	20		1,300
Summary—			
General dispensaries and out-patient departments			900
Special dispensaries and out-patient department			100
Public health dispensaries			1,300
Total			2,300

In 1904 there were about 200, and in 1910 about 700.

This list includes only dispensaries and out-patient departments treating general diseases. Special dispensaries, such as for eye, ear, nose, and throat, tuberculosis, etc., are excluded. The striking fact about this list is the remarkable increase in the number of institutions shown in comparison with earlier years. There are about 2,000 general hospitals in the United States which may be rated as public hospitals, the remaining number, 5,000 or 6,000, being private institutions or sanatoriums. Of these 2,000 public hospitals, we now know that 500, or one-quarter, maintain out-patient departments. This is double the percentage which prevailed in 1900, when the United States census investigated the subject. In 1800 there were 3 out-patient departments and dispensaries in the United States; in 1904 (when the United States census made a survey) there were only 150 general dispensaries; in 1910, when the Federal census made a second survey, there were 400; in 1916 we know of 700, and undoubtedly there are at least 200 more institutions which did not send back the postal cards. We may say conservatively that there are fully 900 dispensaries in the United States treating general diseases, of which a majority are out-patient departments of hospitals and a minority are dispensaries, independent of hospitals. This means that dispensary work for general diseases in the United States has multiplied six times in twelve years, so far as the number of institutions is concerned, and has more than doubled within the past six years.

A still greater advance is shown if we consider other types of dispensaries. There has been a very remarkable growth in organized attempts to prevent tuberculosis, infant mortality, the diseases of school children, etc., and these organized attempts have, in considerable measure, resulted in the establishment of clinics. In 1904 there were about 20 tuberculosis clinics in the United States; in 1916 there were at least 500. The infant hygiene movement is still more recent. Seven years ago there were hardly any special baby welfare clinics in the country; and today there are about 400. The medical inspection of school children has convinced many communities that it is not enough merely to find out the defects of school children—bad eyesight, bad teeth, enlarged tonsils, postural defects, heart diseases, etc.—but that it is necessary to take at least some steps to provide means for the children of the poor families to have these defects corrected. From reports which have been kindly furnished the committee by the United States Bureau of Education we learn that there are at least 250 school children's clinics in the United States, mostly for treating the eyes, throat, and teeth of pupils in the public schools.

Another remarkably rapid movement, dating back hardly more than five years, has been the growth of psychiatric clinics. Hospitals for the insane have established out-patient departments both for the purpose of taking care of discharged patients who would benefit by supervision, and also of examining and treating persons suspected of mental disease or defect. Massachusetts has established such psychiatric clinics in connection with every one of its insane hospitals; a similar movement has made great headway in New York, and is advancing elsewhere. A large number of psychiatric clinics have been started in connection with juvenile courts and with public school systems. A few large institutions have been founded especially for psychiatric work, such as the Phipps Clinic in Baltimore and the Psychopathic Hospital in Boston, and these have largely and finely developed their out-patient departments.

Still another hygiene movement has led to dental clinics, many of which have been added to general dispensaries, but in numerous instances they have been established separately—sometimes in public school buildings,

[1] Report of the Committee on Out-Patient Work presented at the eighteenth annual conference of the American Hospital Association, Philadelphia, September 26-29, 1916.

[2] In 1910 the United States Census reported 350. Adding 100 as probably omitted in their report gives 450 in the United States six years ago.

sometimes by charity organization societies, visiting nurse associations, etc. A few large dental clinics have been founded, notably the Forsyth Dental Infirmary of Boston.

There is a marked tendency in the older communities for the tuberculosis dispensaries to broaden their work and take in other diseases than tuberculosis. Many of the tuberculosis clinics are broadening into small local dispensaries treating general diseases, or health centers, as they are often called.

Special hospitals for gynecology, eye diseases, nose, throat, and ear, orthopedic troubles, and nerve cases have in many instances established dispensaries. We know that their number is at least 75, as we have a list of about that size, and there are doubtless more of which we have not heard.

The growth in the number of dispensaries is the first, but not the only, feature to which we would call attention. Dispensaries are becoming more and more widely distributed over the United States. Table II exemplifies this.

TABLE II. DISTRIBUTION OF DISPENSARIES AND OUT-PATIENT DEPARTMENTS TREATING GENERAL DISEASES IN THE UNITED STATES, 1916.

State	Number
New York	145
Pennsylvania	123
Massachusetts	67
Illinois	45
New Jersey	40
Ohio	30
Missouri	29
Maryland	24
District of Columbia	17
Michigan	17
Connecticut	16
Minnesota	11
Virginia	10
Rhode Island	9
Wisconsin	8
26 other states	89
Total known in United States	680
Estimated additional dispensaries	70
Estimated additional out-patient departments	150
Total	900

Fifteen years ago New York, Pennsylvania and Massachusetts contained about 60 percent of all the dispensaries of the United States and today they have only 40 percent. We may note as a very recent occurrence the rise of dispensary work in the southern states. In Memphis, Tenn., under the leadership of the Associated Charities (Mr. J. P. Kranz, secretary), a useful dispensary center has developed which has just been joined with the Medical School of the University of Tennessee. At Chattanooga, Tenn., at such various points in the South as Little Rock, Ark.; Jackson, Miss.; San Antonio and El Paso, Texas, dispensaries have similarly grown up out of the joint initiative of medical and charitable agencies.

We trace not only a growth in the number and a widening in the local distribution of dispensaries, but also an advance in attention to quality and methods of work. The Association of American Medical Colleges, at its annual meeting in Chicago eight months ago, included in its proceedings a report by a Committee on Medical Teaching in Dispensaries, which is a useful document for every superintendent, whether there is medical teaching in his dispensary or not. Many suggestions concerning dispensary methods are included.[1]

We can see how during the past year, as demanded by this report, teaching institutions of standing have been seriously addressing themselves to the task of putting their dispensaries on a level of equipment, organization, and service equal to the rest of their work. We see this in St. Louis, where during the past year and a half there has gone on a remarkable expansion of the fine new dispensary now part of the group of buildings of the Washington University at St. Louis, conjoined with the medical school, the Barnes Hospital and the Children's Memorial Hospital.

[1]The report was printed in the Journal of the American Medical Association, April 8, 1916, and reprints can be obtained by writing to Dr. George Blumer, chairman, Yale University Medical School, New Haven, Conn.

Another development of the same order is the coordination of all teaching dispensaries in Columbus, Ohio, under Dr. E. R. Hayhurst, well known as the officer of the Department of Health of the state. Among smaller dispensaries we see similar examples of progress. The Hartford (Conn.) Dispensary has reconstituted itself both in plant and organization within the past year. In a number of communities there has been a city physician, paid usually a small amount, to treat the poor of the community either in their homes or at his office, his work at the office being something like a dispensary clinic, but necessarily inadequate as to equipment and affording no opportunity for consultation among specialists. This inadequacy has been recognized recently in several communities. In El Paso, Texas, a dispensary with a staff of specialists, working cooperatively and at specified hours in their several clinics, has grown out of the former plan under which one city physician treated the patients individually. In St. Louis it is announced that the office hours heretofore held by the city physician will be abolished and a definitely planned city dispensary will be developed in the immediate future out of the old inadequate scheme. The same plan is under consideration in St. Paul, Minn.

As in the previous year, the committee has sent to the leading out-patient departments and dispensaries a circular asking for reports of progress or changes made during 1915. We sent out about 350 last year and about 450 this year. Last year we had only 75 responses, but this year we have had almost 150. Evidently a good many institutions are waking up to their dispensaries and are pushing them. Last year we were able to note that the improvements had chiefly taken place along the lines of medical equipment, in particular the x-ray department and the laboratory. Again this year we find 70 institutions, or about half, reporting improvements in their x-ray equipment and in their laboratories. Next in frequency comes the attention to social service. Seventeen new social service departments are reported to have been established during 1915, and 29 existing social service departments have been enlarged by the addition of one or more new paid workers. Another phase in which improvement is quite frequently reported is in the admitting system. More care is paid to the recording and admission of new patients. Closer connection of the hospital with the out-patient department through coordination of the medical staffs, and through other modes of closer relationship, is reported in 14 cases. Quite a number of new kinds of clinics have been established during the past year. Most frequent are the prenatal or obstetrical clinics, started in 8 institutions. Occupational disease clinics have been established during 1915 at the Massachusetts General Hospital and at the Hospital of the University of Pennsylvania. Mount Sinai Hospital in New York has started a whooping-cough clinic. A special gift to Johns Hopkins Hospital has been devoted to the establishment of an elaborately organized syphilis department in their dispensary. Pay clinics, with salaried medical staffs, designed for working persons of moderate means, who are charged moderate fees, have been extended by the Boston Dispensary, where they were started three years ago, and have been taken up by the Brooklyn Hospital, also proposed by Mount Sinai Hospital in New York, but not yet established there. The establishment of the consultation clinic of the Massachusetts General Hospital is one of the notable events of the year. Patients are admitted for consultation only, on a physician's recommendation; no treatment is given, but a report of the diagnosis is given to the physician. A fee of $5 is charged the patient.

The committee has given special study to two subjects which appear on this program. Last year a subcommittee of our group rendered a brief special report on the organization and management of clinics for syphilis and gonorrhea. Venereal disease is more and more recognized as a problem of public health affecting the community as well as the individual sufferers, and organized efforts are being made in many localities to improve facilities for its diagnosis and treatment. During the past year the committee has placed itself in relations with the American Public Health Association and the American Social Hygiene Association, and we are fortunate in securing Dr. William F. Snow, secretary of the latter body, to present a special paper on the subject of venereal disease clinics. The material for this has been gathered jointly by our own committee and by Dr. Snow's organization.

Industrial accident cases in dispensaries is our second special problem this year. This is an outgrowth of the laws which since 1911 have been passed in no less than thirty-three of the United States, providing for compensation to working men and women for industrial accidents. Many of the superintendents here have already faced the question as to what shall be done with the workmen's compensation cases in their hospital wards and their outpatient departments. Suppose a man has suffered an accident in a factory. Under the law he is entitled to medical treatment for a certain period, usually two weeks or more following the accident, and during the period of his incapacity he will also receive one-half to two-thirds of his usual wages. Suppose such a man appears at a dispensary for treatment. If he is accepted and treated as an ordinary case, the dispensary is giving him charity, which under the compensation law ought to be and can be paid for by the industry in which he worked. To treat him as a "charity case" is hardly fair to the institution, the doctor, or the patient. We have corresponded with hospitals and with officials of industrial accident commissions in about ten states of the Union. We find that workmen's compensation cases have raised medical and financial problems in many dispensaries, that they have become an acute issue in a few cities, and that the issues are rapidly shaping up, so that hospital superintendents should discuss them. A definite policy should be formulated in order to protect the interests of all concerned. At the present time procedures fluctuate. No less than six different methods of dealing with industrial accident cases can be cited.

First, a dispensary may refuse treatment on the ground that these are not cases for charitable care. Inasmuch as some of these cases are emergencies, the dispensary often could not exclude them even if it wished to do so. Then there are many cases which may or may not be industrial accident cases, depending on the decision of the industrial accident board or of some legal authority. The policy of total exclusion has, therefore, been found impracticable.

Second, some dispensaries treat an occasional industrial accident case just as they do other cases—for nothing, or for their regular nominal fee. Where the number of industrial cases is very small, there is not enough of a problem to make it worth while to treat them as a special group.

Third, in some of the dispensaries in New York and elsewhere one treatment is given and the patient is then referred to a member of the medical staff according to some rule of precedence. The patient thus becomes the private case of the surgeon to whom he is referred. Some institutions allow the surgeon to treat the patient at the dispensary, but to send his bill to the industrial board, or other proper local authority. This is the practice in some of the dispensaries in California and Ohio, and doubtless elsewhere.

Fourth, other institutions require that the surgeon to whom the industrial patients are referred shall treat them at his private office.

Fifth, the dispensary accepts and carries on the treatment of the industrial accident case, but, instead of the usual nominal fee, it charges a higher fee—for instance, $1 per visit—and collects this fee by sending a bill to the insurance company or industrial accident board. In the Massachusetts General Hospital and in many hospitals in Philadelphia this is the practice, and the hospital keeps the fee. The surgeon gets nothing.

Sixth, in other institutions, however, as in the Brooklyn Hospital, a portion of the fee is paid over to the surgeon treating the case, the remaining part being retained by the institution.

Not a few large industries or insurance companies have solved the difficulties of medical care for industrial accident cases by employing their own "shop physicians" and having their own hospitals and dispensaries. This is a growing practice, which may have far-reaching consequences if it continues to extend.

It is quite evident that where the number of industrial accident cases applying for treatment at a dispensary is a very minute proportion of the total number of patients, the problem is not likely to receive very serious attention; but when the proportion of cases is large, or the number is intrinsically great, the problem then becomes a serious one. In any case the principle involved is of great importance.

A number of the state commissions for administering the workmen's compensation laws have evidently appreciated that if these industrial cases are treated in dispensaries, the fees usually allowed the private practice in similar cases should be paid. Some of the state boards have not yet ruled on the subject, and some now have it under consideration.

Should a charitable dispensary meet the expense of treating industrial accident cases and receive no return? Surely this is unfair. Is it, however, fair that the physician or surgeon should treat them in the dispensary for no financial return? Is it, indeed, fair that industrial cases should be treated any way but as private cases of a surgeon? We have seen, however, that in practice these cases could not be wholly excluded from a dispensary, and that employers and insurance companies are developing special dispensaries for them; in fact, there are many instances wherein it is questionable whether the diagnostic resources of a well-equipped dispensary do not make institutional treatment preferable to private treatment. The broad question arises as between private versus institutional treatment of industrial accident cases.

Here we face a problem of much difficulty. Views as to what ought to be done and how it ought to be done will conflict. We cannot solve, we can merely open up, the problem. Clearly, we cannot deal with the industrial accident cases in hospitals or dispensaries merely by aiming to protect the interests of our institutions. Doctor, patient, and public must also be considered. We are very glad that we have been able to induce Dr. John B. Andrews, secretary of the American Association for Labor Legislation, to speak on this subject in order to point out the broader public issues which come up in connection with industrial cases in medical institutions.

We wish, in concluding this report, to point out what

is really the most significant advance in dispensary work in recent years. The vast increase in the number of dispensaries, their extension into small communities which a few years ago did not know such institutions, and the improvement in methods of dispensary work—all these are but the reflection of a general sentiment on the part of both the medical and the lay public that better care for the health of the people must be furnished. Years ago dispensaries were regarded as medical soup-kitchens, which doled out medical relief, chiefly in the form of a little advice and many prescriptions. Dispensaries were also thought of as adjuncts to medical schools to provide "clinical material." But a new point of view illustrated by the report of the Association of Medical Colleges has now appeared: the dispensary must nowadays be taken seriously by the medical college, treatment of patients must be thorough, medical study of patients must be careful, and the interests of the community in preventing as well as curing disease must be borne in mind. In other words, dispensaries are now seen to be essential adjuncts in any system of providing medical care for the masses of the people. During the past year there have been, for example, two studies made by the Russell Sage Foundation of the public health activities of Springfield, Ill., and Topeka, Kan., and there has also been published a study of the provisions for caring for sickness in Dutchess County, N. Y. All these studies have resulted in recommendations that dispensaries be established or enlarged to meet the needs of the working people of the community. In other words, the interest of the community in promoting the public health has seized on the dispensary as a weapon of attack, both in curing and in preventing disease. It is directly due to this that we have seen the wonderful growth of dispensaries for combating tuberculosis, infant mortality, dental diseases, troubles of school children, etc., which have been referred to in this report. During the next few years we shall see the force of the same interest, the same public health movement, get behind the dispensary treating general diseases. The establishment of still more new dispensaries will be promoted, and existing institutions will be assisted in enlarging and improving their service.

The growth and influence of dispensaries is well shown in another very practical way—namely, by the rise of organized opposition on the part of some of those who fear the dispensary will injure their private interests. In New York this is illustrated by the activities of the so-called medical economic leagues. In several other cities, notably Pittsburg and St. Louis, there have been brought up various crystallized issues concerning dispensary work and publicly fought out within the past year. Such opposition is a stimulant rather than a deterrent to dispensary progress.

Because of the rapid growth of dispensaries and of the increasing interest in their work on the part of hospitals themselves and of the general public also, this committee believes that the American Hospital Association should have a standing instead of merely an annually appointed committee on this subject. Five of the present six members of this committee have served for three years, but each year the committee has had to come to the association with a request that its very existence be continued. Furthermore, the powers of this as a special committee are confined merely to making a report of conditions of dispensary work. A considerable number of inquiries concerning methods and standards come to the members of the committee, and there is evidently opportunity of doing constructive work, which would be of service to the many institutions represented by this association which maintain dispensaries and out-patient departments. We have, therefore, prepared a resolution, which will be presented by one of the members of the committee, for the purpose of forming a standing committee on dispensary work, and we trust that it will be thought of sufficient practical value to the members of this body to justify the passage of this resolution.

MICHAEL M. DAVIS, JR., Boston, Chairman; JOSEPH B. HOWLAND, Boston; W. G. NEALLY, Brooklyn; G. W. OLSON, Minneapolis; RALPH B. SEEM, Baltimore; A. R. WARNER, Cleveland, Committee on Out-Patient Work.

A NURSES' HOME BUILT BY NURSES

The Battle Creek Sanitarium and Hospital Training School for Nurses to Build Model Structure

What might be described as a home of the nurses, by the nurses, and for the nurses, is to be built this year by the Battle Creek Sanitarium and Hospital Training School for Nurses. The future occupants of the structure are to be, in a measure, partners in the enterprise. As far as possible the plans will be drawn to meet their desires. For instance, a census will be taken to find how many prefer single and how many double rooms. The new students nearly always want roommates, as they suffer more or less from homesickness, and some of the older ones also like to have chums.

In financing the home, the nurses are taking an active part. The intention is to have accommodations for 300. It is likely that the cost, including furniture and fittings, will be something like $200,000. Of this $100,000 is to be raised by the sale of twenty-year five percent bonds. The nurses are busily helping to raise the money. A number have bought bonds out of their savings, and others have induced patients and friends to subscribe.

The faculty of the school has taken liberally of the securities, and the male nurses in one office promptly wrote their names for $1,000. Over $21,000 was raised in a few days.

Making Rounds an American Custom

The custom of "making rounds" was adopted in the first hospital of America—the Pennsylvania Hospital. The anecdote is told by Dr. Rush, that entering the ward with his group of students, he stopped at the threshold, and directed attention to a patient: "Please to look yonder, in the corner of the room, where that poor man lies who has been so long and so dangerously ill. I wish you to note that he is now lying upon his side. That's all for the present." When they stood beside the bed, Dr. Rush continued: "You remember, young gentlemen, that when we entered the ward by yonder door, I stopped, and called your attention to the fact that this man was lying on his side, as you now perceive, and this was the first time for many days. I took it for granted that his strength was increased, as he could not have done so else; for a man in a low, nervous fever, entirely insensible, and barely still alive, can by no means change his dorsal to a lateral decubitus. I was much pleased, gentlemen, to observe this favorable omen from the door, and now you will find by his pulse, his breathing, his improved animation, for he actually recognizes and speaks to us, that he is decidedly better, leading us to expect that the crisis is past, and that he will entirely recover ere long."—Albany Medical Annals.

QUERIES AND ANSWERS

The Paint Peels Off

To the Editor of THE MODERN HOSPITAL:

Will you be good enough to inform us as to the best way of finishing the walls of our operating room? The building was erected five years ago. The outer walls are of hollow tile, the inside of which is plaster and enamel paint. The paint keeps peeling off. Do you think it would be best to cover the walls with canvas and apply more paint, or is there some special surface material to apply for operating rooms? The last few coats of paint were evidently so-called patent paint and do not adhere to the previous coats. WISCONSIN.

Unfortunately, it is impossible to put a good paint that will hold over a poor paint that is not holding, and we are quite sure that the only solution of your problem is to remove the first paint that was put on your operating room plaster, and then put a good enamel on in two or even three coats.

The Best Signal System

To the Editor of THE MODERN HOSPITAL:

Please give us your opinion of the light as compared to the bell signal system for a 40-bed hospital. We are new at hospital building and need help. TEXAS.

The bell signal system about which you ask is practically obsolete for hospital use. It places the burden of about four times the amount of work on the nurse, and the bell itself is a nuisance in a hospital. There are several lighting systems, any one of which can be simplified or elaborated to make it conform to your wishes. Three or four companies make entirely acceptable signal systems for hospitals. You will find the advertisements of all these companies in THE MODERN HOSPITAL, and if you will tell any one of these companies just what you want, or will give them your problem, they will design for you a system that will be economical in construction and get the work of your nurses to a minimum when it comes to operation. Please do not think of putting in the bell-ringing system. It is about fifteen years out of date.

Cold Ward Floors

To the Editor of THE MODERN HOSPITAL:

We are about to begin erecting a hospital. The floors are to be of a colored cement which will be cold to convalescents climbing out of bed and dangerously slippery to the injured ambulatory cases. What would you suggest to be placed in front of beds in wards and in the aisles for the purpose of preventing slipping to those who are on crutches, keeping in mind the volume of labor required for care of the floors? WESTERN MINING HOSPITAL.

The Peter Bent Brigham Hospital, of Boston, met the problem of cold floors that confronts you by putting blocks of linoleum, about 6 feet by 10, where each bed is to stand and setting it into the composition floor so that it is flush with the surface. We are not sure that this plan works out well because the beds may not always stand in the same place, and, after all, linoleum is not so very much warmer under the feet of bare-footed patients than one of the cement compositions.

If we had your problem we should use bedside rugs, about 3 feet by 6; these rugs can be taken out and cleaned; they can be moved whenever necessary, from place to place, and they give an air of coziness to a ward.

Some hospitals that have these hard floors run a linoleum runner down the middle, where the aisle is to be, and that has a certain effect on the imagination. It does some good for the nurses' feet, but we do not think it solves your problem. Your crutches can be shod with special rubber tips, made and sold for the purpose, and these really do prevent the slipping of the crutch.

The Staff in a Small Hospital

To the Editor of THE MODERN HOSPITAL:

As a subscriber to THE MODERN HOSPITAL, I would value your advice on the following subjects:

What would you consider an adequate nursing and domestic staff for a hospital of thirty beds arranged as follows?

The basement contains kitchen, staff dining room, laundry and store rooms.

The first floor contains operating room, anesthetic room, linen room, office, ward kitchen, bath room, etc., and one ward with four beds and one with three.

The second floor contains one ward with six beds, one ward with four beds, one with three beds, kitchen, linen room, bath room, etc.

The old building, connected by covered passage, has one ward with four beds, one with two beds, and four single wards.

Average number of beds occupied, probably twenty. Class of patients, municipal—no free wards. Maternity cases, average six. Medical and surgical cases, almost equal. Higher average of female than male cases.

I would also be indebted to you if you could tell me where I could procure full information regarding the training of practical nurses for the people of moderate income, such as homesteaders on the Canadian prairie, the nurses being in demand mostly for maternity work. And what would you advise in the case of a small hospital like this, which will hardly attract probationers, being unable to rank as a training school, and yet will find it costly to employ all graduates?

A SASKATCHEWAN HOSPITAL.

The reply to this inquirer is given by Miss Anne W. Goodrich, of Teachers College, Columbia University, and Editor of the Department of Nursing, THE MODERN HOSPITAL.

Basing our estimate on a comparison of the staffs of several efficiently managed institutions—one of which employs only graduate nurses—in which the daily average of patients ranges from twenty to thirty, we would recommend for this institution the following nursing and domestic staff:

Superintendent of the hospital	1
Assistant superintendent and housekeeper	1
Night superintendent	1
Graduate nurse in charge of operating room	1
Graduate nurse in charge of maternity service	1
Graduate nurses on general duty (three of whom shall be on duty at night)	9
Bookkeeper and stenographer	1
Engineers (one day and one night, or one engineer day and one fireman night)	2
Orderlies (one day and one night)	2
Porter	1
Cook	1
Waitress	1
Chambermaid	1
Cleaners	3
Laundresses	3

We do not believe that an institution having less than a daily average of thirty patients should establish a school

of nursing, and we are interested to note that in the report of the Committee on Investigation of Training Schools for Nurses, which appears in the *Canadian Nurse*, September, 1916, it is stated that in British Columbia most of the very small hospitals have no training schools, but are in the hands of graduates only. If it is impossible to withstand the pressure to establish a training school, it would then become necessary to provide as first assistant a competent nurse instructor, a dietitian who could also act as housekeeper, and to substitute for the nine nurses on general duty, a pupil force of not less than eighteen, since the affiliations required to supply the deficiencies in the hospital service would necessitate courses extending over at least a year, meaning the continual absence of one-third of the pupils in the school. Various other adjustments attendant upon the maintaining of a school would not make the remaining force (12) any too large, if indeed sufficient.

We could not recommend the establishment of an attendant course to provide nursing care "for people of moderate incomes, such as homesteaders on the Canadian prairie." The very isolation of these homes points to the necessity of in some way providing skilled nursing care. It is possible to conceive that a group of women instructed in the simpler nursing and housekeeping procedures could materially aid the nurses of the Victorian Order, and we would therefore suggest obtaining information regarding this from the chief superintendent, 578 Somerset St., Ottawa. We are under the impression that a connection has been made by this order with some of the hospitals in rural communities. If the training of such attendants were undertaken, the number would have to be limited, and it would not greatly change the graduate nurse staff required. On night duty the number could only be lessened by one, and on day duty possibly by three. A competent nurse instructor and instruction under a dietitian would not be less important for this group than for a group of pupil nurses. We do not believe, therefore, that the establishment of such a course, under proper conditions, would materially decrease the cost of the nursing staff to the institution.

Operating Room Floors

To the Editor of THE MODERN HOSPITAL:

I thank you for helping me about the heating of our hospital. The advice you gave us settled the matter. We would appreciate some suggestions regarding what is the best material to use for operating room floors.

NORTH CAROLINA.

It is highly essential that we have a floor in the operating room that shall be impervious to fluids and consequently, microorganisms; it is also necessary that we have a floor that can be easily and quickly mopped and that will dry quickly. Another demand is for a floor on which the nurses will not slip, because quick foot work is often demanded.

We have become accustomed to the small vitrified white tiles. They can be had in the one-inch square mosaics in figures, set in cement, or in the six-sided, 3-inch slabs, or in the 6-inch square slabs. All of these are set in cement and are practically impervious, especially if there is a cove base of art marble or terrazzo, and the top of this cove base should run flush with the wall surface.

We cannot see any objection to the 6-foot width battleship linoleum, in the yellow or fawn color, provided the linoleum is thoroughly well laid, cemented at every part, with joints sealed by the cement. If you are going to lay it over a board subsurface, you had better lay building paper first and use some very thin cement or shellac to seal the building paper to the floor separately from the linoleum. "All-white" operating rooms are no longer the universal rule, and we think that this is well, because the white operating rooms, with white sheets, white gowns, white floors, white walls, white furniture, are very hard on the surgeons' eyes and we would very much prefer a subdued color or tint in the floor, a dull gray up to 6 or 8 feet, and a darker gray above. A good many hospitals are laying white tile floors with walls of a light, dead-faced green and with a lighter green above, and a cream ceiling.

Unless you object to the color, the 12-inch, mill-molded, six-sided slabs of terrazzo, with cove base of the same, are very good for an operating room floor. These floors do not show the dirt, and some administrators do not like them for that reason, but we are becoming accustomed, these later years, to keeping our hospitals clean whether the dirt shows or not.

Well Mothers and Sick Children

To the Editor of THE MODERN HOSPITAL:

Can you tell us what hospitals are doing in regard to permitting the mothers of sick children to stay with the little ones at the hospital if they are willing to pay the price of private rooms or any other expense just to be with their sick ones? Do hospitals allow the mothers the privilege of staying with them? I do not believe in tearing parents and children apart during a serious illness, but my method is severely criticised by some people, and, for that reason, I would be glad for any information obtainable.

NORTH DAKOTA.

You are entirely right and your critics are wrong; it is heartless and unnecessary to keep mothers away from their sick children, more especially if the illness is serious and dangerous. Most hospitals are unprepared to care for this problem in the way that it should be met; that is, they do not have ample accommodations to take care of well mothers of sick children, but most hospitals are under humane management, in a final analysis, and their superintendents are finding ways to meet the necessities of each individual case. If there is an unoccupied private room and the mother is able to pay for it, as she would pay for a room in a hotel, it is, we think, the pretty general custom to let her have the room; and if she is unable to pay for accommodation, and even though the patient be a charity case, it is pretty generally the custom, and it ought to be uniformly the custom, to allow mothers to stay with sick children when those children are in serious condition. The occasion for letting mothers stay will not be quite so frequent as one would imagine, because it is only when the children are in serious and dangerous condition that it is necessary or desirable for mothers to be with them. Mothers come to appreciate this and will generally cooperate with the hospital in the carrying out of any rule along these lines; that is, they will be perfectly content to go home after the child is out of danger or even when there is no immediate danger. A good many hospitals, when a seriously sick child is in the open ward, find a cot or bed somewhere, somehow, in which the mother can sleep, so that she can be called when needed, or so that she can run in occasionally and see the little sufferer.

The thing for you to do is to stand by your guns and read the Golden Rule to anyone who criticises your attitude, "Do unto others as you would have others do unto you." This is the first principle underlying the creation and administration of hospitals; it is a good enough rule for you to be guided by, and it seems to us it is a good enough rule for you to read to anybody who criticises you.

The Annual Report

To the Editor of THE MODERN HOSPITAL:

As a subscriber and an appreciative reader of THE MODERN HOSPITAL, I would like to have some advice from your editorial staff either through the columns of the journal or by letter.

In a few weeks we will be called on to make our annual report of the work done in our hospital, and we are trying to make our report in such a form that it may be correlated with reports of other hospitals. My observations lead me to conclude that there is much yet to be done in standardizing hospital reports. Some hospitals report the number of patients admitted as the basis of comparison, other hospitals publish an index of diseases and operations, and, adding this total, state the number of cases treated. Manifestly this latter plan is a much larger number, but the public do not note the difference between patients admitted and cases treated.

For instance, a patient enters Hospital A, has a panhysterectomy and herniorrhaphy done, and is discharged, listed as one patient admitted. Same patient enters Hospital B and at the end of the year is indexed first as carcinoma of the uterus and in another place as ventral hernia, and when the totals are added she is counted as two cases. The reason I know this is so, is that the index never has a column, for instance, for hypertrophied tonsils-adenoids-phimosis, but these are listed under their separate columns, although we know many children are brought in with this complex. Carried to its last degree, one patient may figure as eight or nine cases, including the postoperative complications which sometimes occur, and also may swell the list of operations quite considerably.

The question is whether this is the proper way to make such a report or whether all hospitals should make comparisons on the basis of patients admitted. Of course, I understand that when it comes to the financial part of the report, this should be made on the basis of patient days and not on patients admitted.

I would be pleased to receive some assistance in this problem. INDIANA.

We assume that you have a file of THE MODERN HOSPITAL, and if you will look in the editorials of October, 1916, p. 309, the editorial entitled "A Logical Annual Report," you will find something on that subject that will interest you.

We are very far from having a standardized form of annual report. What you say about one patient being scheduled in three or four places is all too true, but we do not think that that patient would be usually scheduled in more than one place in the financial statement of any reputable hospital. That is not the usual way that most hospitals make the best showing for their institutions; they do that in the per capita cost. For instance, one hospital has a per capita cost of $2 and gives a splendid service to its patients, including an adequate pathological laboratory, an excellent x-ray service, each under the direction of a competent, high-salaried officer, and they have a scientific dietary that is actually used for the benefit of patients being treated for metabolic troubles. The other hospital shows a per capita cost of $1.50, but gives to its patients nothing except a bed and indifferent nursing service—no laboratory, no x-ray, no special diets and an all-round inferior service, and yet the board of trustees of that $1.50 hospital will boast of the low per capita cost and the trustees of the $2 hospital are likely to howl their heads off and blame their superintendent for not managing his hospital so that his per capita cost also can be $1.50.

When we come to standardize annual reports there must be a statement as to just exactly what the per capita cost includes; eventually, of course, hospitals are going to be so standardized that they will be compelled to give a decent scientific service and the facts as to that service will not need to be specifically stated in the annual report.

Another way that hospitals have of "treating" their annual reports is to put all repair and renewal bills under a building fund account so that they will not be charged in the maintenance account and will not be included against the per capita cost; this is just as wrong, of course, as the other.

Personally, we doubt very much whether the regular annual report is any place to publish the number of operations and the classification of diseases treated. The annual report is for a specific purpose, viz., to set out for the benefit of the board of trustees and supporters of the hospital, and the lay public, the operations of the hospital during the past year, and these people are not interested and will not read about the number of operations and the list of the various diseases treated. We regard it as a waste of space to publish such lists; where the hospital is large enough and there is a fund for the purpose, and the institution is making a pretense in regard to its scientific services, the medical report should be published as a separate document, to be circulated among members of the staff and in the profession generally.

We think the annual report should give salient financial facts, the number of admissions to the hospital, the number of days' treatment, the average length of stay of patients, the per capita cost, when that can be honestly arrived at, the number of deaths, etc. It seems to us this is enough of vital statistics. Then there should be a crisp, epitomized financial statement, and it will always be interesting if this statement can be analyzed under items, both as to income and expenditures. Lay readers will be interested, for instance, in the expenditures for food supplies, and, if these can be classified, it will be an interesting presentation; for instance, one classification of meats, including fish and poultry; another classification could be fresh vegetables, and, still another, canned vegetables; then other classes would show fresh fruits and canned fruits. One classification would cover all the drugs, another would cover surgical instruments and supplies and so on down the whole list of current expenditures. These things are of interest to those for whom the annual report is actually made.

We think the great body of the annual report should be addressed to the more sentimental things concerned in the hospital's annual activities, and the more sentiment that can be put into that part of the report the more valuable will it be from the standpoint of returns—because, in a final analysis, one of the strongest reasons for a report is to show prospective donors to the hospital that the institution is doing good work in the community. If individual incidents can be well written into the report, giving a "human" touch to them, it will be a mighty good thing.

It might be a good thing for you to write to Dr. Frederic Brush, of the Burke Foundation, White Plains, N. Y., and ask him to send you a copy of their last annual report. It comes nearer to our ideal of an annual report than any that we have seen.

The East Tennessee Tuberculosis Sanatorium Association, of Knoxville, plans to establish a sanatorium near Knoxville in the near future. The initial plant will consist of three buildings for patients, an administration building, and a central heating, lighting, and power plant. Accommodations for about 40 patients will be provided. The association owns 120 acres of land near Knoxville, purchased some time ago as a site for the sanatorium.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices,
44 Baxter Building, Philadelphia, Pa.
WILLIAM H. WALSH, M. D., Secretary.

Official Bulletin for January

In the December issue a special request was made of every reader of THE MODERN HOSPITAL to send us a copy of annual reports of hospitals. In response the secretary reports the receipt of six hospital reports. We do not believe this lack of response is due to indifference, and the hope is expressed that, on reading this reminder, every member of the association, and everyone interested in its work, will communicate with the secretary regarding this matter.

COMMERCIAL EXHIBIT

Unusual interest is being shown by supply houses and others in our plans for the commercial exhibit to be held in Cleveland, and at this early date we can offer assurances of a most comprehensive display. Members can aid us by directing the attention of their supply houses to the forthcoming convention.

SOUTHERN HOSPITAL SECTION

The southern hospital people are displaying commendable interest in the new provision of our constitution providing for the formation of sections, and there is every reason to believe that a section from this part of the country will be one of the first to take advantage of the opportunity. At an early date the trustees will discuss the plans for section formation, and will probably outline a scheme of organization that may serve as a model for all sectional bodies.

BUREAU OF REGISTRATION

The work of this bureau is growing, and a list of highly recommended, experienced hospital executives, housekeepers, and instructors is now available for every institution seeking such persons. It must be remembered, in applying for the service of this bureau, that, for the present at least, only members can be listed, although institutions will be supplied with our bulletins regardless of whether their executives have become members.

PAPERS FOR NEXT CONVENTION

The president is already deeply engrossed in the plans for the next program, and in this connection invites correspondence from those who are desirous of presenting papers at Cleveland. Efforts will be made to present a well-balanced program, and special emphasis will be placed on the quality of the material rather than the quantity. In this respect the Philadelphia program was perhaps the most remarkable ever presented, and, with such a precedent as a guide, it is hoped that a program of equal interest can be assembled.

MEMBERSHIP IN THE AMERICAN HOSPITAL ASSOCIATION—AN APPEAL TO REASON

No hospital executive can get along as successfully and as proficiently without wide communication with others handling the same problems as he can if close contact is maintained with them. No man or woman can become so well informed or sufficiently versed in all the complex problems that enter into the management of hospitals as to be an "authority unto himself." To lose interest in the recital of true experiences that are told in our presence by those who bore a part in what they recount is to concede that we are out of the running and are content with the society of our own ingrowing personality.

Everyone we meet is a potential teacher, and the true scholar in the fine art of living is a student to the end. The mother learns from the infant who cannot speak; the instructor learns from his pupils; fashion and style are cycles of imitation. We copy all the time from one another, and adapt to our own uses what we see and hear. Those of us, therefore, who mingle most with our fellowmen, who are ever ready to profit by the experience of others, are the less likely to pose as authorities on the strength of a mere smattering of knowledge. Too often do we encounter the genuinely informed who brings us to grief in our conceit by puncturing our pretense with a few pointed queries.

The American Hospital Association is proud of the fact that many of the really big intellects in the hospital world are already members; indeed, their supremacy in the field presupposes that they have not neglected such a valuable means of acquiring new knowledge. It is, therefore, to those of lesser experience, to the younger generation of hospital people, that we would address this communication, in the hope that they may be made to feel with us an overwhelming humility in the sense of all that lies beyond the boundary of our own minute fund of knowledge.

The American Hospital Association may, with sincerity, display a dignified pride in its accomplishments, since a comparison of its history and that of American hospital progress fully supports the claim that almost every great movement for the improvement of hospital work during the past seventeen years was either initiated or strongly supported by this association. Often the burden has been carried upon the shoulders of a few seasoned veterans who gave freely of their time and intellect, that others might profit. The time has come, however, when others must put a shoulder to the wheel, when those who have so handsomely profited by the industry of older members should assume certain responsibilities with respect to the burden of future years of progress.

AMERICAN MEDICAL ASSOCIATION

Local Committees for Next Meeting Appointed—Those of Interest to Hospital Officers

The New York Committee on Arrangements of the American Medical Association has just completed its preliminary organization. Among the local committees of interest to hospital people are the following: Hospital Superintendents and Executives—Chairman, Robert J. Wilson; Hospital Social Service—Chairman, James K. Paulding; District Nursing Systems—Chairman, Lillian K. Wald; Trained Nurses and Training Schools—Chairman, Adelaide Nutting; Planning and Financing of Municipal and Nonmunicipal Hospitals—Chairman, S. S. Goldwater.

FOREIGN CORRESPONDENCE

War Hospital Notes

DISTRIBUTION OF HOSPITAL ACCOMMODATION ON SERVICE

The regulations as to amount of provision of hospital accommodation of various kinds on active service have been very carefully drawn up, and embody the results of experience of many years and in widely different circumstances. They are probably as comprehensive and practical as could be expected, but a wise administration will allow modifications as necessity arises. The medical authorities have accordingly kept down the actual accommodation provided as low as seemed to be justifiable under the conditions actually prevailing in each case. One important factor in the present campaign (as far as the British forces are concerned) has been the relative shortness of the lines of communication; owing to this, there has not been the usual necessity for establishing a number of "stationary hospitals" between the base and the front, and this type of hospital has been located near the "general hospitals" at the bases, their accommodation being expanded and run on very similar lines to the general hospital. Thus, x-ray departments and pathological laboratories have been provided for some stationary hospitals, and in some cases such a hospital has developed a special type of work—e. g., in one case venereal patients have been exclusively dealt with, another has developed into an officers' hospital and nursing home, and a third has become an isolation hospital for infectious diseases. This evolutionary change is the result of adaptation to special requirements, and shows a wholesome neglect of red tape that in former times could have been perhaps seldom met with. In some cases even casualty clearing stations or hospitals have been provided with bedsteads and staffed with nurses, though patients are not supposed to remain in a hospital of this class any longer than is absolutely necessary; that is, only until transport is available to pass on the patients down the line of communication. Officially, they have no equipment beyond that contained in the field panniers and boxes, and mattress cases that can be filled with straw.

BRITISH HOSPITAL ADMINISTRATION IN FRANCE

There appears to have been some criticism some few months back on the administration of British hospitals in France and Flanders to the effect that they were overstaffed. Mr. J. Lynn Thomas, C. B., F. R. C. S., of Cardiff, having visited many of these hospitals, gives his emphatic testimony to their admirable organization for the treatment of wounded and sick soldiers, and for the prevention of disease; in particular he mentions and eulogizes the special departments for dealing with ophthalmic, dental, skin, and foot troubles. Colonel Gordon Craig, of the Australian medical service, wrote in the early part of the year, pointing out that there must, from time to time, occur periods of comparative inaction, alternating with periods of extreme pressure. It is necessary that the numbers of a military medical organization should be calculated on a certain basis, so that a unit may be competent to deal with emergencies as they arise—e. g., many hundreds of wounded requiring to be attended to with the least possible delay. There will be corresponding intervals of relative inaction, or lessened strain, during which some of the staff may not have much work to do; but the organization must be capable of dealing with emergencies, and possess sufficient elasticity to expand immediately, and deal adequately with each emergency as it arises. During the intervening slack periods (which must necessarily be of uncertain duration) there may be a larger proportion of medical officers present in a unit than is at the moment necessary. This, however, cannot be avoided if the medical units are to be maintained in a state of readiness for action.

OPEN-AIR WARDS

The use of open-air wards for patients has greatly increased of late years in this country, and in the opinion of some observers has perhaps been a little overdone, considering the vagaries of our climate. In an auxiliary building connected with the Second Western General Hospital at Alderley Edge, near Manchester, a well-considered attempt has been made to meet objections. This structure accommodates 16 patients, facing south by east and north by west. On each front is an arrangement of weatherproof shutters, consisting of a wooden framework with panels of asbestos, fitted with windows. These shutters can be put into position quite easily by the nurse, as they travel on an overhead monorail. They interlock and are weather-tight, but a space of a few inches for ventilation is provided under the eaves. Such a protection from weather appears to be necessary. It is stated that the blankets in winter time had been covered with hoarfrost, which cannot have been agreeable, and probably would not be beneficial, to the patient. A coverlet of double layers of unbleached calico, with newspaper between, is stated to afford protection.

CARE OF CRIPPLED SOLDIERS

Men who have lost their limbs, or are otherwise crippled, are at present treated at Queen Mary's Auxiliary Hospital, Roehampton (near Richmond). A similar institution is being established for Scottish soldiers and sailors near Glasgow, and there is no doubt that considerable further provision will have to be made for the proper treatment and after-care of this very numerous class of patients. The Star and Garter building at Richmond (previously referred to in these notes) has been demolished, and a new hospital, or convalescent home, is in course of erection on the site. The circumstances attending the foundation of this institution are worth recording. The professional organization known as the Institute of Auctioneers and Estate Agents purchased the building for £21,500. The amount raised by subscriptions was about double this sum, and the balance was handed over for the endowment of beds. The building was presented to the queen. Her Majesty dedicated it to the use of men permanently disabled by war service. These patients require most constant and careful surgical treatment and nursing, such as they could not possibly obtain in their own homes, yet they are not cases that could be treated in an ordinary hospital on account of the lengthened sojourn that would be required. Two wards were opened in March. The surroundings of the patients are made as homelike and as little irksome or restrictive as possible. Arrangements for the provision of a similar institution for Scottish soldiers

have been made in Glasgow, also in Edinburgh and in other places in Scotland.

Mr. Arthur Pearson has organized an excellent institution for training blinded soldiers in various occupations, such as carpentry, mat and basket making, poultry farming, etc., at St. Dunstan's in Regent's Park, London. This is doing very good work, which is capable of much extension. Every effort is made to alleviate the lot of these poor fellows, deprived of their sight while still young and active. Our illustration (Fig. 1) shows that they are capable of enjoying themselves in the festive dance. They are taught to find their way about by education of the

Fig. 1. Interior of one of the rooms in St. Dunstan's Hospital for Blinded Soldiers, Regent's Park, London. Blind soldiers engaged in dancing. In the upper left-hand corner is shown the manner of laying a carpet along the corridors to guide the inmates.

sense of touch. The smaller illustration shows how, by laying carpet along the center of the corridors, the inmates are enabled to find their way about the building.

INCREASE IN THE COST OF DRUGS

Among the effects of war on hospital management not the least important has been the very great increase in the cost of certain valuable drugs. This has been due to several causes, but perhaps mainly to the fact that, for many years, the United Kingdom has been mainly dependent on Germany for her supply of some of the most widely used synthetic preparations. This is one of the many instances in which, by want of energy and forethought, and by a craving for cheapness, we have allowed ourselves to be distanced by our more active rivals, who have now become our bitter opponents. It must be regretfully acknowledged that the blame is entirely our own—there can be no condemnation of German skill and industry. To take an instance, potassium bromide is a drug universally used in hospitals for the treatment of nerve affections. Immediately before the war the cost was about 1 shilling and 6 pence per pound, the supply being largely of German origin. The effect of hostilities was to advance the price to 25 shillings per pound, though we understand that in Germany it was procurable at 8 pence per pound. The national hospital for the paralyzed and epileptic in London, generally known as the Queen Square Hospital, uses about a ton and a half of bromide annually. The potassium salt has been the one most generally used in this country, but it is the most costly, the potash being mostly derived from the mineral deposits of Germany. Before the war the cost of the annual requirement of potassium bromide amounted, it is stated, to £252; the present, or recent, cost of the same quantity would be £4,200. Judicious purchases and the substitution of the ammonium and sodium salts have kept down the increase in expenditure, but it has nevertheless been enormous, and no considerable reduction is likely to be effected for some time to come.

Where institutions, such as workhouse infirmaries, have been taken over by the War Department, not only as regards the building, but as a "going concern," for the treatment of sick and wounded soldiers, it has sometimes happened that a difficulty has arisen with regard to existing contracts. The class of cases treated has materially differed, of course, from those usually received, and the medicinal requirements have also been changed. Much larger quantities have been needed of what may have become much more expensive drugs—e. g., phenacetin, formerly 7 shillings and 6 pence per pound, rose to 76 shillings per pound; at one large hospital the increase was from 3 shillings to 58 shillings per pound, or 1,900 percent. Phenazone (antipyrin) went up from 8 pence an ounce to about twenty-five times that sum. It is obvious that where the changed conditions have led to an entirely different class of cases being treated—that is, acute cases of severe injury instead of chronic ailments, chiefly of the old and infirm—the conditions of contract cannot equitably be enforced; indeed, whatever price were paid, the supply of certain drugs that of late years have been imported chiefly from Germany has necessarily fallen short in some cases, though now the chemical works in Great Britain are meeting the deficiency. In the particular instance mentioned, where an infirmary was taken over by the military authorities, the Guardians of the Poor (who made the contract) had, of course, no contract for the medical treatment of military cases. The drug contractors suggested that drugs, such as those mentioned, of which the supply is very limited, should be used very sparingly or discontinued. Whether the military medical officers who had charge of the patients were able to fall in with this suggestion, we do not know. When actually in the field, one expects to have only a very limited armamentarium at one's disposal, either of drugs, dressings, or instruments, but in London one would look for these essentials for treatment in unrestricted quantity. In this instance the Guardians decided not to hold the drug contractors to their original figure, but to pay the market prices; they realized that they were bound to supply the drugs to the military authorities, but they felt that they could not equitably allow the firm of contractors to suffer. Probably the War Department would make up for the Guardians any deficiency. One of the results of this war will, no doubt, be a wholesome revulsion from the vicious condition of dependence on the rest of the world for so many necessary articles of consumption that Great Britain might have grown or manufactured for herself, but the cultivation or production of which she has for many years neglected, owing to the craze for cheapness. It should be mentioned that the cost of practically all articles of food has increased by about 45 or 50 percent, with the exception of milk, which rose not quite 30 percent.

A HOSPITAL FOR TYPHOID "CARRIERS"

A hospital of quite a special kind has been established at Addington Park, near Croydon, by the Red Cross Society. Originally started for the treatment of acute infective cases, such as enteric fever and dysentery, it has developed into a sort of "clearing house" for carrier cases; consequently most of the patients are, from a clinical point of view, convalescents. They are, however, retained in hospital until bacteriological examination has shown that they can be discharged without being a danger to the community as "carriers." Dr. E. C. Hort, the honorary physician and director of the laboratory, has reported on the

work done, and an important point appears to have been established—namely, that antityphoid inoculation tends to reduce the proportion of carriers among those convalescing from the disease. The persistence of bacterial infection long after acute symptoms have ceased, and even when the patient appears to be in good health in every way, has long been recognized as a difficulty in the management of these cases, and the nonrecognition of this fact has undoubtedly in former years brought about the spread of the disease, especially in India. Ordinary hospital accommodation is not available for the care of such convalescents, nor do they need hospital treatment in the usual acceptation of the term; but for the protection of the community at large they require to be segregated, with the most minute and constant supervision over disposal of the excreta, such as is impossible of attainment in their own homes. The Addington Park Hospital has been expanded from time to time, and now accommodates 1,700 patients, most of whom, however, have themselves recovered from the disease, though they are not free from infectivity to others.

ARRANGEMENTS AT GUY'S HOSPITAL

The distribution of hospital accommodation in London is, like many other matters of administration in the metropolis, and indeed in the United Kingdom generally, not based on any logical plan or deliberate design, but has come about almost at haphazard—it has "growed," like Topsy. Many large hospitals are situated relatively near to each other in the central parts of the metropolis, while enormous areas of dense population are ill supplied with means of hospital treatment for what are called "the working classes," an expression taken to mean those who earn a weekly wage. It is from these classes that the majority of the inmates of hospitals are derived. It is true that within recent times St. Thomas' Hospital has been removed to Lambeth, and quite lately King's College Hospital to Brixton; but there is relatively a deficiency in the south, and perhaps more particularly in the southeast, of London. It was this consideration, we believe, that actuated the governors of Guy's Hospital in deciding not to accept the War Office offer of financial assistance in return for placing beds at the disposal of the military authorities; they felt that the hospital should remain available for the treatment of civilians for whom no accommodation could be found at other hospitals on account of their occupation by the military. But they devoted a large ward of 48 beds to the treatment of wounded officers, and gave up another ward of 20 beds for the care and management of minor surgical defects which, if untreated, would prevent a man becoming an efficient soldier, but which are capable of being remedied without difficulty—e. g., hernia, varicose veins, defective teeth, etc. This is extremely valuable work, not only for the immediate necessities of the war, but for the health and well-being of the people generally, many of whom, however, under ordinary circumstances neglect to have any treatment for these ailments.

[To be continued.]

The Robinson Hospital, a handsome three-story and basement building of brown chinchilla brick and Bedford stone, has recently been opened at Robinson, Ill., under the superintendency of Miss Katherina Steinman, a graduate of St. Vincent's Hospital, Indianapolis, Ind., class of 1915. The hospital was built by Drs. Carlyle, Price, Rafferty, and Lowe, of Robinson, who have opened a cooperative clinic, and besides the offices and accommodations for 18 patients, has modern operating, obstetric, x-ray, and laboratory equipment.

TWO NEW CLINICS FOR OCCUPATIONAL DISEASES

Night Clinic on Industrial Medicine and Surgery at Rush Medical College, Chicago—Department of Occupational Diseases Established at Union Hospital, New York

How many practicing physicians are there in this country who know enough about occupations of modern life to follow them to the ward in the hospital as the prime cause of disease and to differentiate them in taking a history and in making a diagnosis? The history sheets of most hospitals record the patient's occupation in such superficial and inadequate terms as "laborer," "clerk," "painter," etc., which give no real information in regard to the patient's actual vocational activities. And yet diseases due to occupations are among the most important ills from which we suffer. Deaths directly attributable to occupational diseases are rare, to be sure, but this is because death is generally the direct result of a secondary disease. If we are to fight disease by fighting causes, then must we not delve deeply into causes, and does not this mean that the modern medical man, in order to be thoroughly capable of leading in the education of the public in health matters, must familiarize himself with commercial and industrial conditions, at least far enough to enable him to evaluate their relationship to disease?

This question is beginning to be answered in the affirmative. We are gradually accumulating a literature on the subject of occupational diseases; we are adding to the small number of clinics for occupational diseases; we are beginning to teach the subject in our medical schools. A most important recent addition to the literature, "Diseases of Occupation and Vocational Hygiene," by Kober and Hanson, by the way, is reviewed on another page.

Union Hospital, New York, is one of the largest institutions to give attention to this important subject. It has established a department for the treatment of occupational diseases, with Dr. Frederick W. Loughran as physician in charge. Here an intensive inquiry will be made into personal, environmental, and occupational factors of the cases, and patients will be instructed in means of avoiding the dangers to their health.

A most important innovation is offered by Rush Medical College in the form of a comprehensive course on industrial medicine and surgery under Dr. Harry E. Mock. While several medical schools have offered courses on some one branch of industrial medicine, Rush is said to be the first school to offer so complete a course. The clinic is to be held at night, so that it may be available to employed persons. At this night clinic patients will be given first aid. If unable to work, they will be referred to the day dispensary. If they are able to remain at work, continued treatment will be given at the night clinic, together with instruction in hygiene and prevention of disease. If the work on which they are engaged is unsuitable to their physical condition, the Department of Industrial Medicine will try, through a social service worker, to secure work better adapted to their strength. The social service worker will also endeavor to enlist the interest of the employer in adapting conditions of work to the needs of the industrial worker. It is the intention also to cooperate with employers who wish advice on hygiene and sanitation, examination of employees, emergency treatment in case of accidents and sudden illness, etc. Such training as this will surely be invaluable to the physician of tomorrow.

Dr. Frederick Allen, of Oakland, Cal., is opening a private sanatorium near San Lorenzo, in the same state.

BOOK REVIEWS

Proceedings of the National Conference of Charities and Correction, at the Forty-third Annual Session, May 10-17, 1916. Permanent headquarters, 315 Plymouth Court, Chicago, Ill. Chicago, 1916. Pp. 713, cloth.

According to the preface to this volume, "in both discussions and business action those who attended the forty-third annual session of the conference seem to have been impressed with the usefulness of this body in showing how all of scientific social effort in America may be turned to the solution of all its main practical problems." The extent and variety of these problems are indicated to some extent by the table of contents. The papers presented are grouped under the following main headings: "Promotion of Social Programs," "Inebriety," "Unemployment," "Feeblemindedness and Insanity," "Public and Private Charities," "The Family and the Community," "Corrections," "Children," and "Health." The president of the conference, Dr. Francis H. Gavisk, in his address on "The Scope of the Conference," says: "The National Conference is unlike any other body that assembles. . . . The conference decides nothing and does not go on record as favoring either this policy or that, but that its influence has been potent is evidenced from the forward movement in charities and corrections since its organization. . . . At a single conference on the care of dependent children held in Washington in 1909 the result of the deliberations of the White House Conference was to standardize the methods of child care and indirectly to establish the Federal Children's Bureau. . . ."

The Control of Hunger in Health and Disease. By Anton Julius Carlson, professor of physiology in the University of Chicago. University of Chicago Press, Chicago, 1916. Pp. 319, cloth, $2 net.

This book is to be considered, in the author's words, "as the first rather than the final chapter on hunger control, and yet the most extensive work in this field to date." It contains a summary of the work done on the stomach, with special reference to hunger and appetite, carried out in the Hull Physiological Laboratory of the University of Chicago during the last four years. Three methods have been employed: (1) direct inspection of the stomach through a gastric fistula (Dr. Carlson has been so fortunate as to have in his service a "second Alexis St. Martin," a Mr. F. V., who has complete closure of the esophagus and a permanent gastric fistula of twenty years' standing); (2) the introduction into the stomach of a rubber balloon, and recording the variations in pressure on the distended balloon due to contractions in the stomach; (3) the introduction into the stomach of a balloon coated on the inside with bismuth paste, which permits graphic recording of the stomach movement synchronously with roentgenography or fluoroscopy, and, in man, recording the subjective sensations. Carlson's experiments were made on Mr. F. V., on normal human beings, and on experimental animals. The true hunger sensation, Carlson finds (he distinguishes between appetite and hunger), is due to contractions of the empty stomach, which are primarily initiated in the stomach itself and are thus independent of motor impulses from the brain or spinal cord. A few of Carlson's other conclusions are the following: The accessory hunger phenomena, excepting the exhaustion fatigue of prolonged starvation, are caused reflexly by the hunger tonus and the hunger contractions of the empty stomach. Since the empty stomach, when completely isolated from the central nervous system, exhibits typical hunger contractions, the primary role of the gastric nerves is that of modifying or regulating essentially automatic mechanisms in the stomach wall. Of especial practical importance are the conclusions (1) that the normal human stomach secretes pepsin far in excess of the actual needs of gastric digestion, and (2) that "bitters" have no favorable action on hunger contractions or on the secretion of the gastric juice. Carlson admits a certain influence on appetite through the stimulation, by condiments and flavors, of nerve-endings in the mouth and in the normal gastric mucosa. "Apart from this," he remarks, "the physiologic way of augmenting hunger and appetite is moderation in the food intake or increasing the utilization of the food in the body by outdoor living, fresh air, cold baths, and physical work. If these measures do not improve appetite and hunger, the chances are that the digestive tract is not in condition to take care of the amount of food demanded by stronger hunger and appetite sensations."

Manual for Institution Libraries. Compiled by Carrie E. Scott, assisted by the A. L. A. Committee on Library Work in Hospitals and in Charitable and Correctional Institutions. A. L. A. Publishing Board, 78 East Washington street, Chicago. 25 cents.

This is a little hand-book of thirty-eight pages, which endeavors to answer in a simple and practical manner the five questions which confront the institution librarian who has had no library training: (1) what books shall I select? (2) how shall I arrange them? (3) how shall I keep track of them? (4) how shall I get them to the readers? (5) how shall I keep them in good condition? Appended is a list of supplies needed in the library, with addresses of reliable firms. Altogether, it is a very complete and satisfactory little hand-book. To the untrained hospital librarian (and there are few others) such a hand-book is indispensable. Happily, the hospitals are waking up to the importance of a good library as a therapeutic agent, and are learning that, to be efficient, this library must be organized; and that without some system the best library is simply a mass of books, while with it the library becomes an important department of the hospital.

The Practitioner's Medical Dictionary. By George M. Gould, A. M., M. D., author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." Third edition, revised and enlarged by R. J. E. Scott, M. A., B. C. L., M. D., Fellow of the New York Academy of Medicine. Pp. 962, with many tables. Cloth, $2.75. P. Blakiston's Son & Co., Philadelphia, 1916.

The object in view in this new edition, the publishers state, was to provide a comprehensive low-priced dictionary in compact, convenient form. It is said to contain nearly 71,000 terms, or, by actual count, 70,900. The authors say that the definitions "are based upon the standard literature and authoritative text-books of the day, and are not copied from the older vocabularies." The general tendency of modern usage is followed in the elimination of diphthongs in "c(a)esarean," "c(o)eliac," "h(a)emal,"

etc.; also in the capitalization, in the title-words, of proper names and their derivatives only. Another feature which will commend itself to users of this dictionary is the placing of eponymic terms under the alphabetical place of the eponym and not under that of the variable generic term. For instance, the Wassermann test will be found under "Wassermann" and not under "test" or "reaction;" Marie's symptom is found under "Marie" and not under "symptom" or "sign." The book, on the whole, appears to be a very convenient and satisfactory work of reference.

Hospital Laboratory Methods for Students, Technicians, and Clinicians. By Frank A. McJunkin, A. M., M. D., Professor of pathology, Marquette University School of Medicine. Pp. 139, with 94 illustrations. Cloth, $1.25 net. P. Blakiston's Son & Co., Philadelphia, 1916.

This book is intended for the use of hospital laboratory workers and technicians of other small laboratories. The tests given are those required on specimens commonly sent to such laboratories, namely, clinical specimens, including urine, gastric contents, feces, sputum and blood, and bacteriologic, surgical, and autopsy specimens. No attempt has been made to enumerate all the methods in use for any given purpose; instead, the author has chosen in each case the simplest procedure by which the object of the analysis can be attained with the greatest certainty. Only well-tested methods have been included.

American Public Health Protection. By Henry Bixby Hemenway, A. M., M. D., author of "The Legal Principles of Public Health Administration." Pp. 283, cloth, $1.25 net. The Bobbs-Merrill Company, Indianapolis, 1916.

This book, dedicated "to the women of America," is a tract for the times, written, the author says, partly in response to appeals from health officers and university professors in several states. Its text is: "Health administration must be divorced from politics and recognized as a special profession." Amateur sanitarians, Dr. Hemenway says, should not themselves attempt to determine administrative policies or legislative provisions. In the place of trying to decide how dairies should be managed they should make sure that a competent health officer is employed, and then follow his leading.

The book is well adapted to its purpose; it is one which the intelligent layman may read with pleasure and interest as well as profit. It is refreshing to note that Dr. Hemenway has not felt it necessary to depersonalize and devitalize his most interesting stories by omitting all names and all human interest. Too many medical writers for the laity fail to realize that lacking these "vitamines," the pabulum that they furnish is likely to give the consumer the yawning disease.

If his titles were as happy as his text is interesting, it would seem that Dr. Hemenway's book might become really popular. Unfortunately, however, the very man or woman who ought to be reached by such a book is likely, we fear, to shy away from a volume on "American Public Health Protection," especially when the chapter headings read "National Health Agencies," "Changes Due to Advancement in Science," "Organization of Health Departments," etc.

Diseases of Occupation and Vocational Hygiene. Edited by George M. Kober, M. D., LL. D., and William C. Hanson, M. D. Pp. 918, with illustrations and reference tables. Cloth, $8 net. P. Blackiston's Son & Co., Philadelphia, 1916.

In the introduction to his great work on "Dangerous Trades," Dr. (now Sir Thomas) Oliver wrote: "This is the first occasion on which, on the special lines indicated in this book, any adequate attempt has been made in this or any other country to deal with the conduct of trade and other occupations in respect to the dangers of life and health to which the workers are liable."

These words were written scarcely twenty years ago. Much water has flowed under the bridge since then, yet Dr. Kober in his introduction to the present volume tells us that so late as 1911 he declined an invitation from his publishers to prepare or edit such a book "because the scarcity of statistical data in reference to disease and accident hazards in the various occupations of this country had compelled him in his former writings to get most of his facts from Europe and the state of Massachusetts." Since then increasing attention has been paid in this country to occupational diseases, and the accumulation of material has resulted in such notable additions to the literature as Dr. W. Gilman Thompson's "Occupational Diseases" (1914), Dr. George M. Price's "The Modern Factory" (1914), and, more recently, the volume now under discussion.

Kober and Hanson's "Diseases of Occupation and Vocational Hygiene," like Sir Thomas Oliver's "Dangerous Trades," is a compilation of articles contributed by various authors. Under such a plan a work always suffers somewhat in respect to logical and formal consistency, but, if the collaborators be wisely chosen, it gains on the side of authoritativeness. The twenty-nine contributors to this volume (thirty-one, including the two editors) comprise such investigators as Dr. Alice Hamilton, well known for her excellent work on industrial lead-poisoning, etc.; Dr. John B. Andrews, whose intensive study of phosphorus poisoning in the match industry of the United States, finally led to prohibitive taxation on the use of the poisonous white phosphorus in this country; Major Bailey K. Ashford, president of the Board for the Study of Tropical Diseases as They Exist in Porto Rico; Dr. Emery R. Hayhurst, director of the Division of Occupational Diseases, State Board of Health of Ohio; and the editors themselves, whose previous work needs no comment.

The three main divisions of the work comprise: (1) "Specific and Systemic Diseases of Occupation, Fatigue and Neuroses, etc.;" (2) "Etiology and Prophylaxis of Occupational Diseases—Vocational Hygiene;" and (3) "The Relation of Clinics, Statistics, Governmental Study and Legislation to Occupational Diseases." Altogether it affords a rich mine of information to the student of occupational diseases. It is to be regretted, by the way, that so important a work has not been made more accessible to ready reference. The index, which might have been quite sufficient for a less monumental or more systematically arranged book, is inadequate, considering the amount, the value and the irregular treatment of the information contained therein.

American students of this subject may well congratulate themselves that a satisfactory literature on occupational diseases is being produced on this side of the Atlantic. The problem now is to interest American physicians in the subject; but that is another story, and those who wish may read on another page of this issue an account of the recent opening of two new clinics for occupational diseases, which, it is hoped, may help those already established in diffusing a knowledge of occupational diseases and hygiene among the American medical profession.

Miss Martha A. Egelston, formerly connected with Kansas City hospitals, has accepted an appointment as superintendent of the City Hospital at Dallas, Texas.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

The Year's Progress in the Construction of Sterilizing Apparatus by American Manufacturers

Manufacturers of sterilizing apparatus in the United States have reached such a point that the claim may be justly made that American sterilizers excel those produced in Europe or any other part of the world. Anyone who has made an inspection of sterilizing rooms of European hospitals and compared the apparatus found there with those installed in our own hospitals will readily verify this statement. We believe that the apparatus manufactured in the United States excels especially in point of simplicity and convenience of operation.

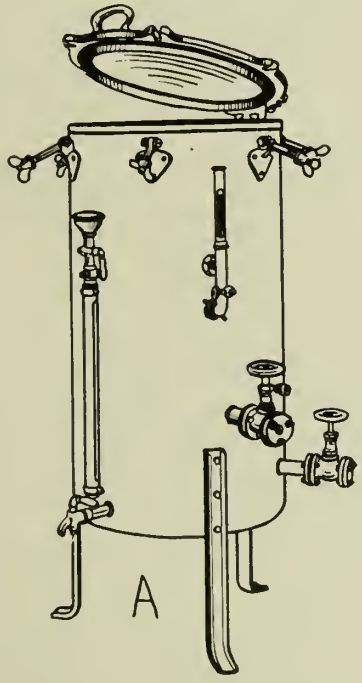

Fig. 1. European type of dressing sterilizer, known as "autoclave."

The type of dressing sterilizer most commonly met with in European hospitals is the upright or vertical type, which is designated under the term "autoclave" (Fig. 1). This vertical type of apparatus does not compare at all favorably with the horizontal type from the standpoint either of accessibility or of cleanliness. The vertical type is usually set on low legs on the floor, which makes it rather difficult to keep the apparatus clean. The type of apparatus employed in the United States is set horizontally on a stand, which brings the level of the door opening to the proper height to make it convenient for loading and unloading. This advantage is easily apparent on comparing illustration Fig. 2 with Fig. 1.

In the matter of locking the door, the type employed in our hospitals is also vastly superior. With the European type it is necessary to fasten and unfasten a number of wing hinged bolts (from 6 to 12) each time the sterilizer is opened or closed, while in the American type the door is locked and unlocked by the simple operation of turning a wheel, which throws radial fingers. This construction also prevents accidents, which are liable to happen with the European apparatus, owing to the vertically suspended door slamming shut. In the sterilizers built in this country it is impossible for the door to slam shut, as it swings in a horizontal plane. Sterilizers as made today are so safeguarded that it is almost impossible for an accident to occur unless the operator tampers with the apparatus or fails to follow the directions of the manufacturer.

Provisions have been made for extra safety by employing two safety valves. Special attachments prevent im-

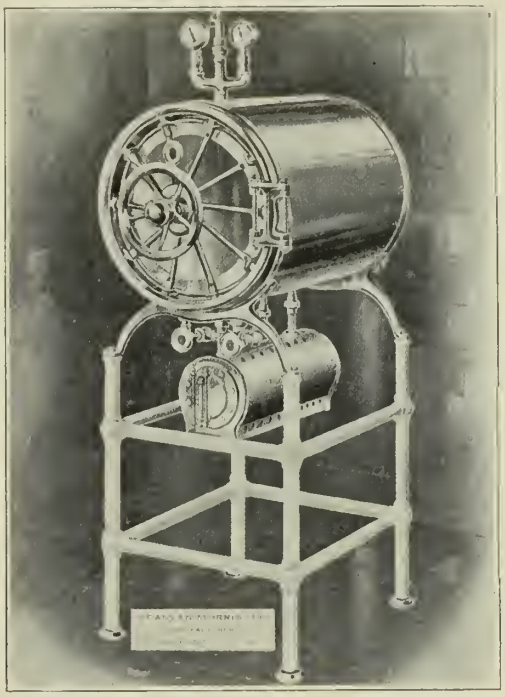

Fig. 2. Representative type of dressing sterilizer made by American manufacturers.

perfect locking of the doors. Other devices prevent opening the doors while there is pressure in the sterilizer.

Most users of this type of apparatus fail to realize what has been accomplished in the direction of safety, but this fact will be made apparent when one considers that all other forms of high-pressure apparatus, outside of sterilizers used in hospitals, are employed under the supervision of skilled engineers, while sterilizers, which are classed as high-pressure apparatus, are almost universally operated by men or women possessing practically no mechanical knowledge.

The most important improvement in dressing sterilizers, however, has been the development of the front-control (see Fig. 3). The front-control does away with the necessity of having to work at both ends of the sterilizer. It prevents the possibility of the operator's hands being burned in manipulating valves situated at the back of the sterilizer and in the limited space between the sterilizer and the wall. It also does away with the necessity of

keeping a clear space alongside the dressing sterilizer (see Fig. 4).

The development of a device for rapidly drying the sterilized articles has considerably shortened the time in which to turn out the dressings in a perfectly dry condition. Means have also been invented to prevent the escape of steam from the safety valves into the sterilizing room. Formerly jets of steam escaped from the safety valve whenever this was released by over-pressure. Now an attachment known as the Hendrickson device carries off the steam released by the safety valve into a vent pipe and prevents the annoyance due to condensed steam accumulating on walls, ceiling, as well as on instruments and appliances in the operating room.

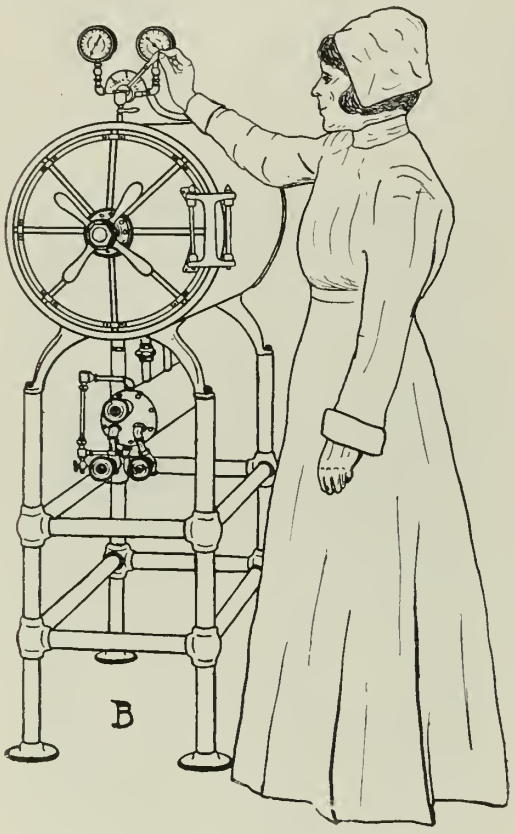

Fig. 3. Illustration showing advantage of front-control.

In some of the newer hospitals that are being built sterilizers are being mounted on wall brackets, as shown in Fig. 5. As a result, the floor space is kept free from encumbrances and the maintenance of cleanliness is made easier.

In the manufacture of water sterilizers, the employment of seamless shells with smooth domes upwards has also aided cleanliness. The employment of clean-cut valves has simplified the process of cleaning out the tanks. Improvements in the construction of the filter by using hinged bolts for holding down the dome, and the addition of a set-screw for raising the dome has greatly simplified the removal and cleaning of the filter stone.

In instrument and utensil sterilizers improvements have been made whereby the cover and tray are simultaneously raised by means of various pedal arrangements. In the newest forms the cover is thrown back on a hinge out of the way of the operator, so that there is no drop of condensed steam on the arms of the operator, as was the case where the covers were raised horizontally. Improvements in the construction of oil pumps also greatly lessen the labor of the nurse in raising the trays of utensil sterilizers.

Probably the most important development, however, has been in the designing of apparatus for automatically emptying and sterilizing bed-pans. Heretofore the emptying and cleaning of bed-pans in open sinks (see Fig. 6) has been one of the most disagreeable features connected with hospital work, and, although several manufacturers have

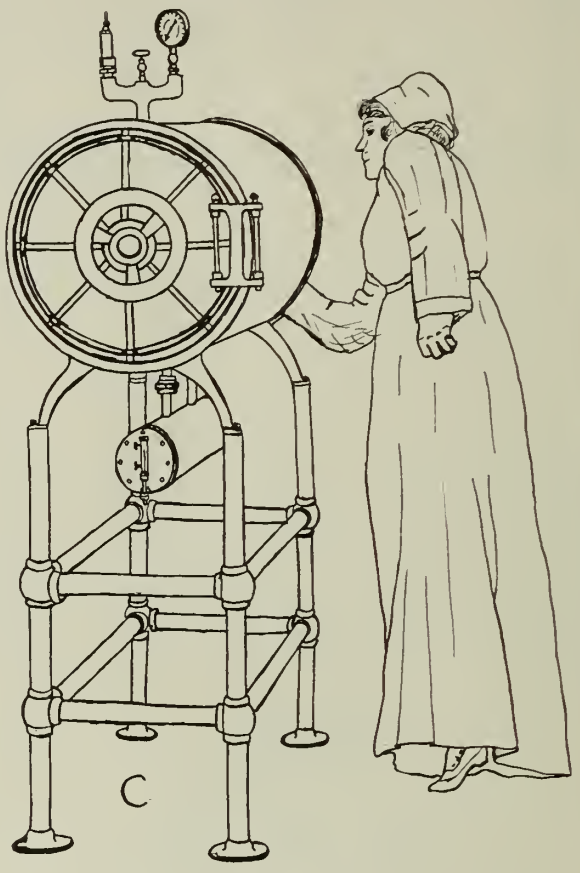

Fig. 4. Illustration showing disadvantage of rear-control.

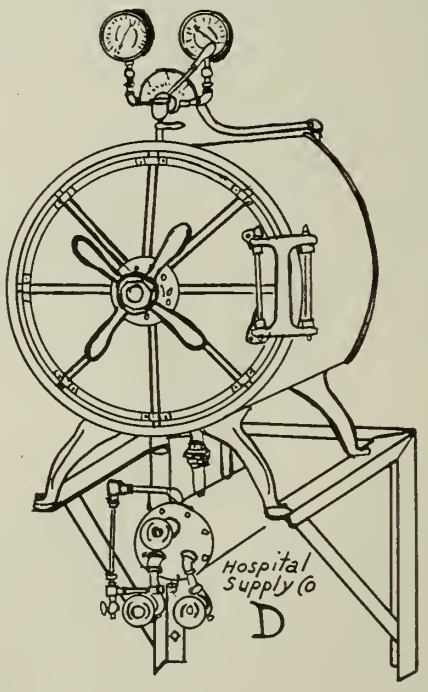

Fig. 5. Showing sterilizer mounted on wall brackets.

in the past devoted themselves to the task of designing bed-pan sterilizers, they seem to have overlooked the greater demand for an apparatus for emptying and washing the pans. This requirement has been well met by the Hospital Supply Company, of New York, with their new "Climax" apparatus (Fig. 7), perfected and placed on the market during the last year. In this apparatus an entirely new design was employed in the form of a cylindrical hopper with a tight-fitting cover instead of a square hopper

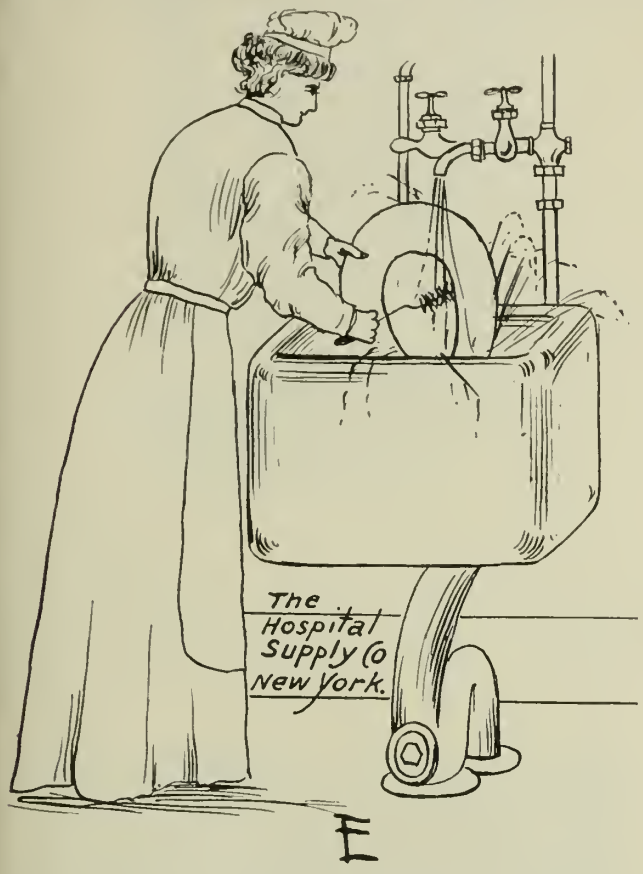

Fig. 6. Showing former method of emptying and cleaning bed-pans in open sinks.

with a loose-fitting cover. The use of internal perforated piping, which was experimented with by several manufacturers, has been done away with on account of the difficulty of keeping it clean, and the latest apparatus contains no internal piping whatsoever. In like manner the four-legged stand has been dispensed with and replaced by having the trap act as a support. By an ingenious arrangement the bed-pan is revolved, by means of a crank on the outside, against the water sprays and is thus automatically emptied and washed clean in a closed vessel, without splashing water and without the escape of odors. This same apparatus provides the means of sterilizing either the emptied bed-pan or the bed-pan and contents.

Special attention has been given during the last year by the Scanlan-Morris Company, of Madison, Wis., to the simplifying of their sterilizing apparatus in the way of standardizing the various parts so that, in case any part ever needs replacement, it can be forwarded from the factory and placed in position by any good mechanic, a feature which will surely be appreciated by those using this type of apparatus, as it will not only prevent delay and inconvenience, but also greatly reduce the cost of such necessary work. In addition, this company has also constructed a new bed-pan and stool sterilizer (Fig. 8), which seems to have solved the problem of both sterilizing and emptying bed-pan and contents with one operation in a simple manner. The apparatus is made in the shape of a utensil sterilizer with rounded corners, the bed-pan resting on a specially shaped bracket attached to the cover, which automatically inverts inself when the cover is closed, thus emptying the contents into the sterilizer. The cover is held on a seat (gasket) by strong clamps, thus preventing any odor escaping into the room. The odor is carried into a 2-inch vent pipe, which is provided for this purpose at the base of the sterilizer. A steam chest or false bottom attached to the bottom of the sterilizer permits of the contents being agitated or sterilized by forcing the steam to circulate directly from the boiler through the chest. After a thorough sterilization of contents and bed-pan, the sterilizer is emptied by opening up the trap (valve) attached to the bottom of the sterilizer. A water supply is attached to the body of the sterilizer for flushing the bed-pan before sterilization, the pan being washed from within and on the outside by a series of sprays attached to the inside of the sterilizer.

A special feature commending itself to hospital workers in the construction of this apparatus is that it permits of steam from a high-pressure boiler to be used

Fig. 7. "Climax" sterilizer for automatically emptying and sterilizing bed-pans.

directly in the steam chest or bottom of sterilizer, thereby eliminating all reducing pressure valves, as the sterilizer is so constructed that it will stand upward of 65 pounds of steam pressure in the chest. The cover on the sterilizer is raised and lowered by means of an automatic foot pedal, thus leaving the attendant's hands free for manipulating the bed-pan.

A very important improvement has been added to their sterilizing apparatus during the year just past, by the American Sterilizer Company, of Erie, Pa., in the shape of a distilled water apparatus (Fig. 9), designed for attach-

ment to water sterilizers, thus extending the scope of water sterilizers to a still broader field of usefulness. During the process of sterilization, the temperature of the water in the reservoirs is raised to approximately 250 degrees F., with its corresponding pressure of about 15 pounds, representing the excess temperature of 40 degrees F. or more above the boiling point, to which the temperature should be reduced before attempting to operate the draw-off valve.

Formerly it was the practice to get rid of this excess temperature by the slow and unsatisfactory method of waiting for the water to cool by radiation or by opening an air-cock or vent and allowing the excess steam to escape, generally into the room, where it frequently increased the humidity to an objectionable degree and at the same time caused the waste of a valuable by-product, distilled water.

This newly patented process not only overcomes the objections heretofore existing, but also insures a plentiful supply of distilled water of the very highest quality for solutions, etc., every time the apparatus is operated, and

Fig. 8. "White Line" bed-pan sterilizer.

this practically without cost. It is apparent that this distillate will be of very high quality for the reason that all the water is first filtered, then sterilized, and it is the steam from this sterilized water which is used to produce the distilled product. Means are also provided for periodical steam sterilization of the entire distilling equipment, and when necessary to obtain larger quantities of distilled water there is ample reserve capacity. While this equipment was primarily designed for attachment to "American" sterilizers, the manufacturers are now prepared to furnish it in three different sizes for use in connection with other makes of water sterilizers.

A new instrument sterilizer has been brought out by the Wilmot Castle Company, of Rochester, N. Y., which is designed particularly for use direct in the operating room where operators frequently desire such a sterilizer

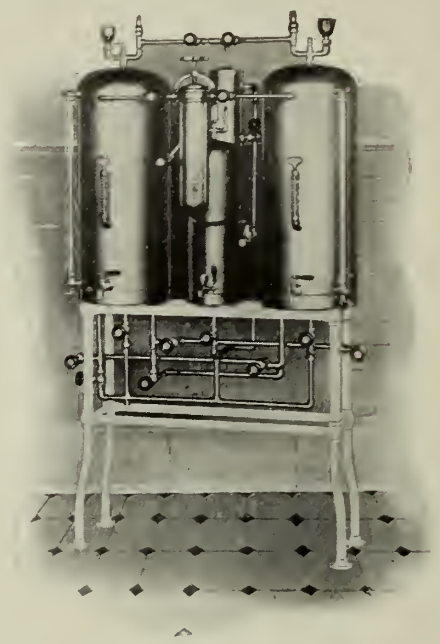

Fig. 9. "American" distilled water apparatus.

located for the sake of convenience. It is shaped much like a lady's upright desk with a cover that pulls down in front, leaving the top portion of the sterilizer covered, this top corresponding to the ledge at the top of the desk. A vent is located in the extreme top, so that, whether

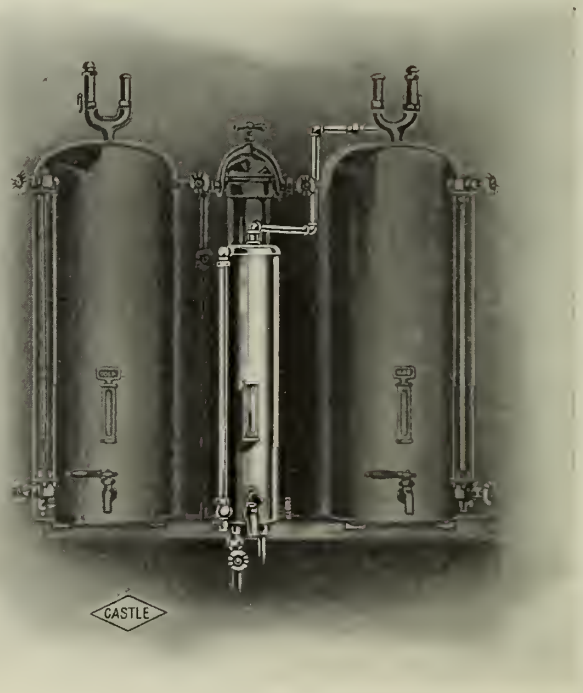

Fig. 10. "Castle" distilled water apparatus.

the cover is open or closed, the natural path for the rising steam is up and out the vent, rather than into the room. The cover has attached to it at each end a light brass ladder chain, connected over brass wheels to a tray carrier which, when the cover is closed, lies in the

extreme bottom of the sterilizer. When the cover is open the carrier is raised to the top of the bottom portion so that the tray, which rests freely on the carrier, may be pulled out directly on the open cover, which serves as a drain board, carrying the water which drips from the tray back into the sterilizer. In a very few seconds the heat in the tray and instruments dries them off thoroughly, so that the tray of instruments may be carried away from the sterilizer without drip on the floor. The new sterilizer takes care of the three points in which older models failed, namely, it carries off the excess steam from the sterilizer at all times; it lowers and raises the tray in and out of the boiling water; and it provides means for draining and drying the tray and contents.

In addition to the new instrument sterilizer, this company has also constructed a distilled water apparatus for use with their water sterilizers. This apparatus consists simply of a small tin-lined brass reservoir permanently connected to the top of one of the water sterilizer reservoirs, thus representing merely an added steam dome for that sterilizer. Following the usual sterilizing process in the water sterilizer, it is possible in a few seconds to thoroughly steam cleanse the entire distilled water apparatus by blowing live steam through it. Following this, in about ten or fifteen minutes it is possible to produce one or two gallons of pure distilled water, utilizing the steam from the water sterilizer. The construction of the apparatus is very simple, there being but one valve to manipulate.

The Kny-Scheerer Corporation, of New York, one of the first firms in this country who have made the construction of high-pressure sterilizing apparatus one of the important features of their business, have also been continuously at work to improve the construction of their apparatus in order to bring them up to the high standard of efficiency demanded by the surgical profession.

It has been apparent to them for some time that the acknowledged fact that steam under 15 pounds pressure (250° F.) is fatal to all spore-bearing bacteria, has become to many hospital workers an acceptable theory that the presence of 15 pounds steam pressure within the sterilizing chamber is sufficient for all practical purposes, which, however, is a fallacy, because it requires the temperature of 250° F. throughout the entire contents of the sterilizing chamber, to be assured of thorough sterilization, consequently the question of penetration is of the most vital importance.

It is well known that cold absorbs heat, therefore if the steam is admitted to the dressings before the latter have been thoroughly heated, there will be an excessive condensation and loss of heat, resulting in wet dressings, thus making it more difficult to secure proper penetration.

This company for some years past advocated the necessity of attenuating the air by drawing a partial vacuum within the sterilizing chamber to insure better and more rapid penetration of the steam to the innermost recesses of the materials to be sterilized, and it is this matter of accelerating the penetration (which is displacement of air) to which they have given their most serious attention.

Since the adoption of the various methods of testing the penetration of steam, many hospitals have found the results to be negative, i. e., their tests show that the steam at the proper temperature does not penetrate to the innermost recesses of the materials, and it seems that some manufacturers have placed the blame for this on the uncertainty of the testing materials. This has not been the experience of the Kny-Scheerer Corporation. They have found that owing to the lack of knowledge of this principle of penetration the operators pack the materials into the sterilizing chamber too forcibly, thus forming a decidedly compact mass, which cannot be effectually penetrated with a steam pressure of 15 pounds. This should be borne in mind by hospital workers in charge of such apparatus, and the materials to be sterilized should be packed into the sterilizing chamber with this fact continually in view.

In order to facilitate penetration of material the Kny-Scheerer Corporation have built a new type of dressing sterilizer, designed to operate under two atmospheres of pressure, equaling 30 pounds. With this additional pressure and excess temperature, combined with other new features, they are assured of thorough penetration and absolute sterilization.

Another advancement brought out by this firm is the "sterilizer detector," which serves to indicate beyond peradventure just what has taken place within the sterilizer. It is well known that some operators are rather careless in handling the valves controlling the gas or steam supply, and instead of adjusting these so as to maintain the proper temperature, they permit them to remain open to the fullest extent until the steam safety valve blows off, when they will hastily close these valves to still the noise, but often forget to reopen them, which is necessary in order to maintain a constant temperature; however, after the prescribed period of thirty minutes has elapsed they presume that the process of sterilization is completed, whereas in reality the dressings have been only subjected to the required temperature for a few intermittent periods, with the resulting serious consequences. This new detector shows all this clearly on the dial, so that the conscientious operator will soon learn to handle the apparatus intelligently and without difficulty.

The First Diet Kitchen in Federal Army Base Hospital

What is said to be the first diet kitchen in the federal army base hospitals was established as an indirect result of the hundred-mile hike of the Seventh New York Regiment in August. Many suffered from heat exhaustion and consequently from gastro-enteritis and intestinal indigestion. When returned to camp these men were unable to eat the regular rations, and in order to enable them to return to duty in the shortest possible time, the medical officer in charge of the camp, Dr. C. Perley Gray, established a diet kitchen, with most gratifying results. Within twenty-four or thirty-six hours most of the men were enabled to return to active duty and restoration to health followed in a short time. The idea was later adopted at the base hospital.

Saving in Hospital Expenditure Through Employment of Full-Time Physicians

In March, 1916, the city of Buffalo adopted an ordinance replacing ten part-time physicians by four who give all their time to the work. Comparing the six months since the ordinance went into effect with the same period of 1915, it appears that there has been a saving of $10,366 in the hospital expenditures for indigent patients. The economy is attributed mainly to the shorter stay of patients in the hospital under the newer and more efficient system. The expenditures for 1916, it is estimated, will be $20,000 less than for the previous year.

Mrs. F. M. Beaty has resigned the superintendency of the City and County Hospital at Fort Worth, Texas.

HINTS FOR HOSPITAL SUPERINTENDENTS

This column is maintained as a help and reminder to hospital workers about the little things in administration. It is urgently requested that everyone contribute his and her "hints." Each item added to our knowledge helps to fill the common storehouse from which all may draw supplies.

One of the big items of expense in administering a hospital is the operation of the power plant. The principal item is the coal bill, and therefore it deserves a great deal of attention. You should watch the smoke stack, for when black smoke is rolling out, so are the dollars. The gases are not being consumed. You should see to your firing at once. The fireman, however, is not always to blame—it is very often the fault of the coal.

You should buy coal that contains 13,000 B. T. U. or more. B. T. U. means heat units. It is a unit of heat. A unit of heat is the amount of heat required to raise the temperature of one pound of water one degree. One pound of coal should contain at least 13,000 heat units. This means that one pound of coal consumed under 13,000 pounds of water will raise the temperature of that amount of water one degree, and 212 pounds of coal should raise the temperature of that amount of water to 212 degrees, the boiling point.

With a properly constructed furnace, a good fireman, and coal containing the proper B. T. U., with the least amount of ash, you can, without question, cut your fuel bill. Another saving is in oil used in engines, pumps, etc. Have drip pans to catch the oil, then filter and use it over again. A filter costs very little, and you will be surprised at the saving you will make. ASA S. BACON.

In purchasing hospital supplies it should always be kept in mind that there is a great difference between the cheapest price and real economy. Some goods are dear at the rate of a cent on the dollar.

As vacuum bottles are used more, the method of cleaning them becomes of practical importance. Two methods are used—one with shot and the other with some form of soda. The latter method is better as not endangering the glass. Caustic or washing soda is more cleaning or quicker than baking soda, but the latter will do. Hot water, soda, and little clippings of clean paper will do the work, shaking from time to time for fifteen minutes with the bottle corked.

Every day in the year hospital superintendents are asked to try new things; they are advised to buy things supposed to be improvements on what they have been using. Whenever the article that is being urged on us is offered as a substitute for something that we are not happy about at the present moment, or something that has failed us in time of need, we are very much disposed to try the new things. Somebody has to be the first, but there ought to be a time and a place and an opportunity to try new things, and we ought to think pretty carefully before we agree to try new things, especially when we are going to try them at our own expense and not at the expense of the manufacturer or selling agent.

It is a pretty good plan when a new device, or indeed anything new and untried, is offered to us to find out where and by whom it has been used, and then it is another pretty good plan to communicate with that person and find out whether it was satisfactory. About 90 percent of new things that are offered hospitals for trial prove to be worthless, and many of these worthless things have made fortunes for their owners just because the buyers did not take the precaution to find out what others' experience had been.

All of us ought to do a certain amount of experimenting, but where a new manufacturer invades a substantial and already very well-occupied field, he ought to be so sure of the efficiency of the device he is offering as to be willing to furnish it either at a very much reduced price or wholly free. Of course, if it is some piece of expensive apparatus like a self-feeding grate for the boiler plant, we have no right to ask a manufacturer to donate the article, but we have a right to insist on his looking over our plant, and then, after he sees just what the situation there is, he should be willing to guarantee satisfaction with his device or that he will take it out, or that we shall not be asked to pay for it. In a case of this particular sort we are doing a good deal to allow a new device to interfere with the running of our service. How much the less, then, should we be asked to pay for an unsuccessful device.

To trustees: A good many of you are dissatisfied with your superintendent, and you are expecting things of him or her that call for education, training, and experience of a most versatile executive. It is required of your superintendent that he or she shall know the markets, the difficulties and methods of preparation of a thousand items in foodstuffs; it is required that he or she shall have an intimate knowledge of the values of various fabrics, cotton and wool, a knowledge of medical and surgical instruments and appliances, a knowledge of all the scientific technic practiced in modern hospitals, which includes a working knowledge of medicine and surgery, in order that the demands of the medical staff can be satisfied; he or she must know the laws of sanitation and hygiene and how to apply them, must know mechanics in order to meet the exigencies of the power plant of the institution in all its branches, must know modern pathology at least to the extent of being able to direct and manage the asepsis of the institution and the disinfection of places and things. It is required that your superintendent shall have tact and diplomacy in order to handle the employees and keep the institution in favor with the public.

And yet your superintendent, in nine cases out of ten, is getting little more than day's wages, and is the poorest paid person, taking into consideration the character of the position, in the United States today. Does it not occur to you that you had better raise the standard of your superintendent, and, if your present executive is not measuring up to all these demands, get someone who can measure up to them and pay him or her a salary in keeping with the high skill required in the office?

The Denver Homeopathic College and Hospital Association, Denver, Colo., will soon launch a campaign for funds to erect a larger plant for the Park Avenue Hospital of that city. Tentative plans already made call for an expenditure of at least $100,000.

A SMALL HOSPITAL THAT PAYS

Community Institution Created by Selling Stock—Results of One Year's Operation

BY C. I. OLIVER, M. D.,
Secretary of the Western Minnesota Hospital, Graceville, Minn.

The first annual report of the Western Minnesota Hospital was rendered after the hospital had been in operation for thirteen months and twenty days. At this time the conditions were shown as follows:

Four hundred and twenty-six patients had been admitted. These patients had paid the hospital an aggregate of $9,723.73 in cash. There were outstanding accounts due the hospital amounting to $618.20, and all of this, with the exception of about $100, has since been paid in. We have paid out during the year the sum of $7,847.54, every cent of which came from the income above noted. This left us with $1,876.19 cash on hand and $618.20 due us on account. From the above-noted expenditures, permanent improvements to the amount of $874.07 were made in the building and grounds, and our invoice shows $455.61 of supplies on hand. All debts were paid, and the hospital did not owe a cent when the report was made. Therefore it will be noted that the hospital made a net profit of $3,205.87. As the hospital is a stock company, an annual meeting of the holders of stock was held and a dividend of 10 percent declared and the remainder left as a surplus.

Western Minnesota Hospital, Graceville, Minn.

The report embodying these facts gained a certain amount of circulation, and a great many inquiries have been received by the secretary as to "how it was done." The fact is the promoters were about as surprised as anyone. No dividend was expected, and I think most of them were prepared to receive an assessment.

The hospital has 17 regular patient beds (21 have been accommodated). It represents an investment of $19,000, $15,000 being from stock sold and the rest from donations. Six of the single rooms were furnished by lodges and private parties, and are second to no rooms in any hospital for comfort and elegance of fixtures. For these rooms we get $25 per week. We have five other single rooms furnished by the hospital, for which we get $20 per week, and three 2-bed wards that bring in $15 per bed. Besides this we get a $5 operating room fee. This is our entire source of income. All doctors supply their own anesthetists and pay them. All doctors have to guarantee the hospital bill for all patients they bring in (we feel that if all hospitals did this, they would be listed on the stock exchange in place of having churches take up collections for them).

As to disbursements, we have a training school which is in affiliation with some hospitals of greater capacity. We have four pupil nurses who receive $5 per month, with board, room, and uniforms, and a registered nurse as superintendent, who receives $80 per month. Regular classes and lectures are held. Other fixed salaries are: janitor, $30; cook, $30; and laundress, $25. Electricity for light and power costs about $18 monthly. Our laundry is equipped with steam dryer, electric mangle and washer. Heat comes from a vacuum steam plant in the basement of the building. We also have a high-pressure steam boiler for heating water for use in the sterilizer. The coal bill for this and the kitchen range amounted to about $600 for the fourteen months. The bill for groceries, butter, milk, eggs, cream, and vegetables averaged about $160 and the meat about $30 per month; the upkeep of linen about $200 per year.

Going a little farther into detail, we find that our patients cost us, on an average, $1.93 per day. At this we made a little even on our ward patients. We were fortunate in that most of our patients desired the higher-priced rooms.

We have tried in every possible way to make our patients feel at home from the minute they come in the door until they go out. When they are under no dietary restrictions we let them order their next day's meals; this pleases them greatly and they ask for very little that it is not convenient to give them. We have the belief that a pleased hospital patient going out is the best advertising a hospital can get. The average number of daily patients at the start was about 7, but it has increased until the last three months we have had no bed vacant for more than forty-eight hours and most of the time we have a waiting list.

From our slight experience we would come to the following conclusions: any physician or group of physicians who can be fairly sure of an average of 7 daily patients at an average price of $20 per week, and guarantee the pay, can afford to build a 15-bed fairly modern hospital and break even on the game. If they cannot do this, they had better keep out. Each doctor should be willing to furnish all his own equipment, and should not have the idea the hospital owes him enough to buy every little fad that comes out.

There should be no rooms or wards so cheap that the hospital cannot come out even on them. Eight and 10-dollar patients are not to be desired in a hospital that intends to be self-sustaining, and they take all the profit from the good rooms; besides, they are usually the most troublesome.

Preach economy all the time to the employees. We have promised all our help a 10-percent raise if they will send out satisfied patients the next year at a lower cost per diem than the last year.

PENNSYLVANIA'S IDEA OF VIRTUE

Boasts of Being Without a Debt—But Eleven of Its State Hospitals Refuse to Admit Incurable Epilepsy

I submit this case to the people of Pennsylvania—a state without a debt—and ask them what they think about it.

An elderly Philadelphia gentleman, in modest financial condition, whose daughter was the unfortunate victim in this case, told me the circumstances yesterday. Some years ago the child was stricken with epilepsy. She was kept at home, but last spring her mental condition became such that it was necessary to send her to an institution. One hospital after another was visited. Some hospitals for epileptics refused to accept the patient because she was insane. Some hospitals for the insane refused to admit her because she was epileptic. Still others objected

to her admission because her ailment was incurable. "We cure, but do not act as custodian of incurables." That was the sentence imposed by institution after institution.

At one of the largest and newest hospitals in the state, and one which is a state institution, the unfortunate father received substantially this advice:

"Go see Senator So-and-so before you apply to such-and-such a hospital. Perhaps he can get your daughter cared for." But the kind-hearted senator could do nothing, powerful as his influence is in that locality.

In another instance the father of the girl was urged by the hospital authorities to use "political pull" to get her admitted into some other institution. The Norristown asylum was visited, but it was found overcrowded and with a waiting list.

In all the father was turned away from eleven hospitals whose specialty is either epilepsy or insanity. A twelfth was appealed to and the young woman was admitted.

This man was quite willing to pay a moderate and reasonable sum for the proper care of his daughter. In his distress he discovered that Pennsylvania, big as it is and rich as it boasts of being, does not apparently maintain a hospital for unfortunates who are both epileptic and insane.

Of ordinary hospitals we have a surfeit. Official reports show that thousands of hospital beds in Pennsylvania are unused every day.

But it seems there is a lack of this especial sort of hospital facility for the epileptic insane of which, the doctors tell me, there are unfortunately a large number. Hence the question: Is Pennsylvania unable to provide in civilized fashion for all of its mentally deficient?—Girard's Topics of the Town, in Philadelphia Ledger.

Motion Study for Surgeons

Mr. Frank B. Gilbreth has taken up the study of the question of operative efficiency and hospital efficiency, in which he makes the following statements:

"In studying hospitals we find the conditions, as a rule, much worse from a managerial standpoint than in the average factory, and some hospitals are so bad that they should be actually closed immediately.

"The standardization of hospitals is now gradually being recognized as desirable and necessary. Such standardization must be based on measurement, which, so far as the manual processes of the surgical clinic are concerned, consists mainly of motion-study.

"The tools of the surgeon have not been standardized in any satisfactory way. Any economic classification made of the tools of a hospital shows that the tool situation is positively pathetic and ridiculous, this present state being the outcome of the incentive which ever exists to design special tools. This condition can be realized only by subjecting the present tools to the tests of motion-study.

"Great practice with comparatively few tools is one of the laws of the most efficient use of tools. How does this compare with the custom universally present in surgery today? The average doctor usually considers that the possession of specially designed tools is a desirable asset. The constant incentive under present conditions in surgery is to design more tools, since the designer receives credit from the public, and sometimes also from his coworkers, and occasionally has the honor of having the new tools named for him. Naturally, the greater the number of tools, the less must be the practice with each; the smaller becomes the chance of having a standard tool which is used by all. The general tools of the hospital are by no means as carefully selected as are those of the trades and factories. There should be one central, specially equipped laboratory for measuring, testing, and comparing all new designs with existing standards."

WORRY A FORM OF WASTE MOTION

Consider the Automobile—Why Let the Mental Machinery "Run Idle"?

Not all worry is preventable, but for the most part it can be avoided. Most of our fears are never realized, and as a rule, if we meet our troubles day by day as they come, without worrying about them before they arrive or fretting over them after they have passed, we will find that we have the strength to rise above them. Worry undermines the health to a certain extent. It really weakens the mental forces by tiring them out by doing nothing. Consider the automobile. When the car is going to stand still for more than a few minutes the driver stops the engine. By doing this he saves gasoline, oil, and above all, useless wear and tear on the machinery. If he lets the engine "run idle" he has wasted a lot of valuable material, shortened the life of his engine, and in the meantime the automobile has not budged an inch.

Usually the relief from worry rests with the victim of this unhappy habit himself, but sometimes the real causes are not the ones which seem to explain the condition, and we must go deep into our lives or have the assistance of those who are skilled in unraveling mental processes. The best antidote for worry is a change of mental occupation, a getting away from the scenes which provoke worry, exercise in the open air, a good book, a pleasant recreation, or a temporary change of occupation. As a matter of mental health, every sufferer from this unfortunate condition owes it to himself to discover some simple means of getting away from this habit which is destructive to health and peace of mind alike.

Prizes Awarded by Military Surgeons

The Association of Military Surgeons of the United States announces the results in the Henry S. Wellcome Prize Competition. Captain Mahlon Ashford, M. C., U. S. A., who wrote on the subject, "The Most Practicable Plan for the Organization, Training and Utilization of the Medical Officers of the Medical Reserve Corps of the United States Army and Navy, and of the Medical Officers of the Officers' Reserve Corps of the United States Army, in Peace and War," was awarded a gold medal and $300. First Lieut. Henry C. Coe, M. R. C., of New York city, who received the honorable mention for this prize, was awarded a life membership in the association. A silver medal and $200 was awarded to Assistant Surgeon-General W. C. Rucker, U. S. P. H. S., whose essay was entitled: "The Influence of the European War on the Transmission of the Infections of Disease, with Special Reference to Its Effect Upon Disease Conditions of the United States." Passed Assistant Surgeon J. R. Hurley, U. S. P. H. S., received honorable mention for this prize and a life membership in the association. These prizes, which were given by Mr. Henry S. Wellcome, an American living in London, are annually competed for by officers of the Army, the Navy, the Public Health Service, the National Guard and the Officers' Reserve Corps of both the Army and the Navy. The essays of the successful contestants will be published at an early date in the *Military Surgeon.*

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. VIII *March, 1917* No. 3

THE PHILIPPINE GENERAL HOSPITAL, MANILA

History, Organization, Practical Work, and Educational Functions in Medicine, Pharmacy, Dentistry, Nursing, and Midwifery

By W. E. MUSGRAVE, Director of the Hospital and Dean of College of Medicine and Surgery, University of the Philippines

WHEN the United States assumed control of affairs in the Philippines in the year 1898, one of the first requests made by Americans, physicians and laymen, was for modern hospital provision for the care of the sick. As a result of almost constant agitation of this question, adequate modern hospital facilities were made available in 1910, about eleven years after American sovereignty was established in this country. As far back as 1900 Mr. Taft, then president of the Philippine Commission, requested Major John R. McDill, United States army, to present rec-

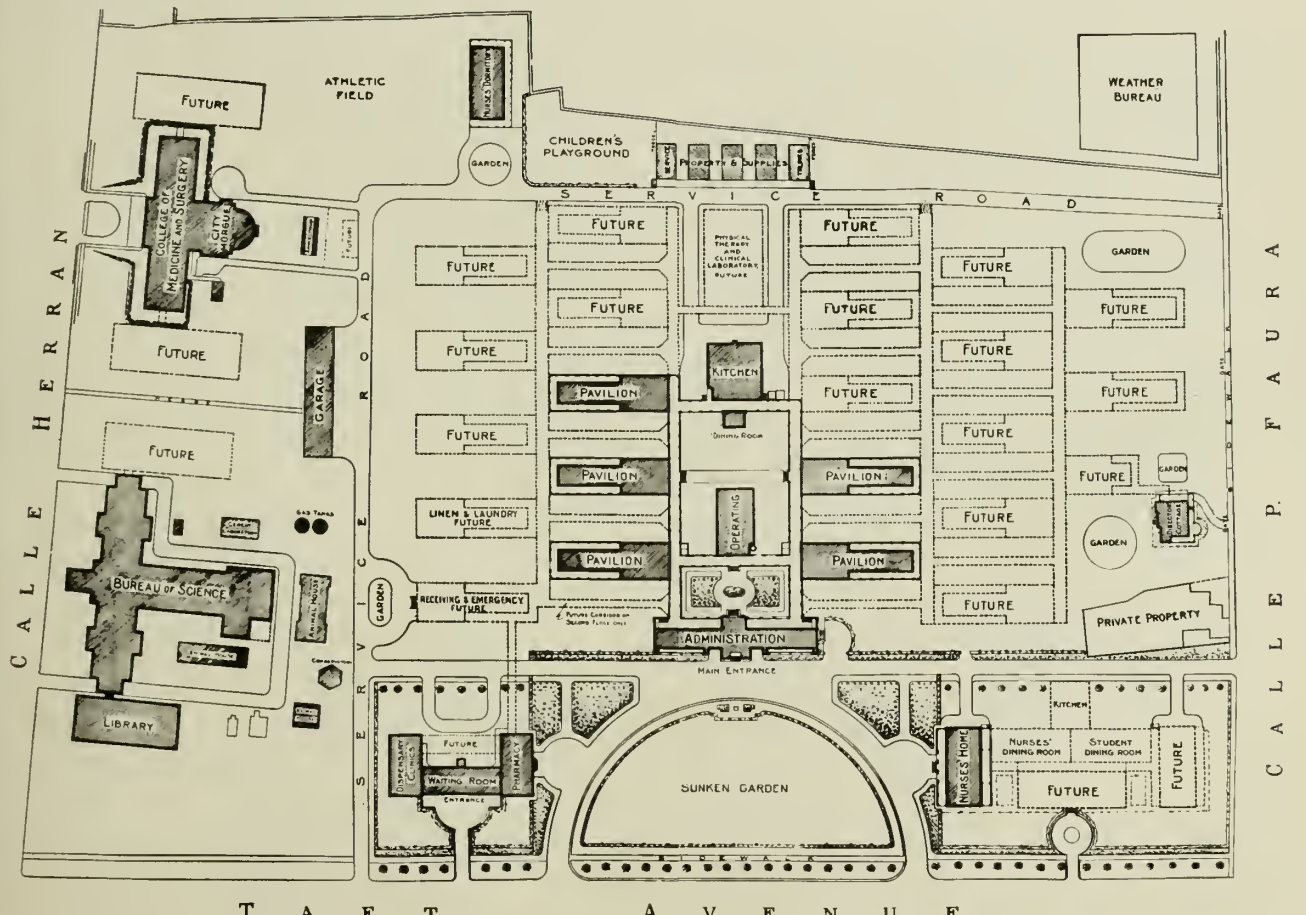

Fig. 1. Philippine General Hospital. Block plan of hospital, college, and bureau of science.

Fig. 2. Philippine General Hospital, with auxiliary buildings, Manila.

ommendations looking toward the establishment of a general hospital in Manila. Dr. McDill's report was a very exhaustive summing up of the situation. It contained plans drawn up, in consultation with insular architect Bourne, for a general hospital of 1,500 beds, modeled somewhat after the great Hamburg-Eppendorf Hospital. In his report, Dr. McDill gave an analysis of the

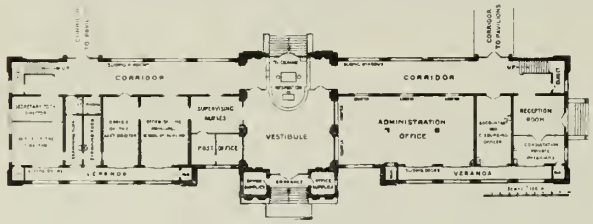

Fig. 3. Administration pavilion. First floor plan.

needs of an institution of this kind, submitted a tentative organization, and gave strikingly accurate estimates of what it would cost to build and operate such a hospital. During the years which elapsed between the McDill-Bourne report and the final acceptance of a bid for construction, expensive temporary expedients were in force by

Fig. 4. Administration pavilion. Second floor plan.

the Government to furnish hospital care for its employees and the clamoring public.

Finally, after over a decade of American administration, plans were completed, and the present Government hospital constructed at a cost of about 750,000 pesos. The final plans were a modification of the original McDill-Bourne plans, which in turn were based on the plans of the Hamburg-Eppendorf. Because of lack of funds, several of the essential and most important units in a modern hospital, such as laundry, linen rooms, store rooms, pantry, signal systems, incinerator, quarters for staff, nurses, and employees, provision for isolation of unclassified and noisy patients, receiving wards, and many others had

Fig. 5. Typical pavilion. Ground floor plan.

to be omitted. Some of these needs have been supplied by subsequent appropriations and many have not yet been completed.

The hospital had been open but a few weeks when it began to suffer severe criticism of many kinds from many sources. In June, 1914, shortly after Hon. W. T. Denison was made secretary of the interior, he held a public investigation of the

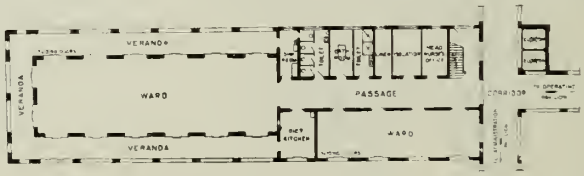

Fig. 6. Typical pavilion. Second floor plan.

whole hospital question and authorized a radical and extensive reorganization of the institution, involving much-needed physical changes in the buildings, a modern organization in personnel, new methods of accounting and disbursing of funds, and, in fact, revolutionary changes. I was selected to bring these changes about, and was appointed director of the hospital and given con-

General view, showing administration building to the right of center.

trol of its appropriation in July, 1914, and it is with the remodeled, reorganized hospital that this article deals.

FUNCTIONS

The Philippine General Hospital has assigned to it an unusual number of important functions even for a *general* hospital. Briefly stated, these functions are: (1) medical and surgical care for Government employees, their wives, and minor children who are not suffering from diseases due to immoral or vicious habits of the patient, who, according to law, are entitled to treatment at the hospital either as "in-patients" or as "office patients;" (2) medical and surgical care for the poor of the city of Manila and the provinces; (3) hospital accommodations for private patients who are willing to pay for private rooms and other special accommodations: (4) emergency hospital and ambulance service for the city of Manila and

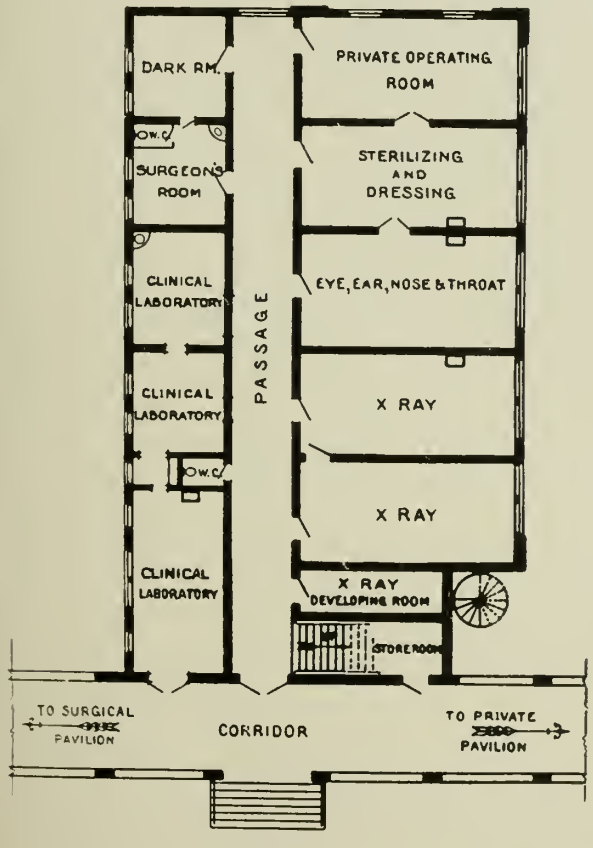

Fig. 7. Physical therapy, clinical laboratory, and operating pavilion. Ground floor plan.

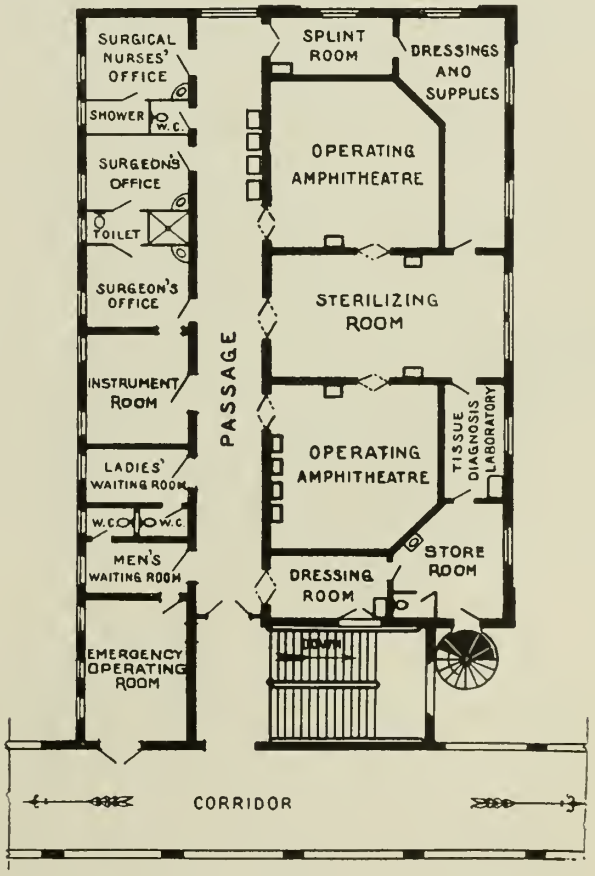

Fig. 8. Physical therapy, clinical laboratory, and operating pavilion. Second floor plan.

surrounding territory; (5) pharmacy service for hospital and free dispensary patients, for Government employees, and for the poor of the city of Manila; (6) out-patient visiting maternity service for the poor of the city of Manila, which is made possible by the generosity of the municipal board of the city of Manila; (7) skilled services in clinical laboratory work, x-ray and other laboratories for hospital and dispensary patients, Government employees, and the public in general; (8) educational facilities and teachers for interns, externs, graduate and undergraduate students of medicine, pharmacy, dentistry, nursing, and midwifery; (9) public welfare (social service) department for the poor of the city and

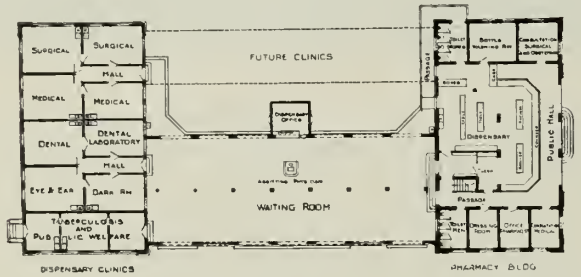

Fig. 9. Free dispensary and pharmacy buildings. Ground floor plan.

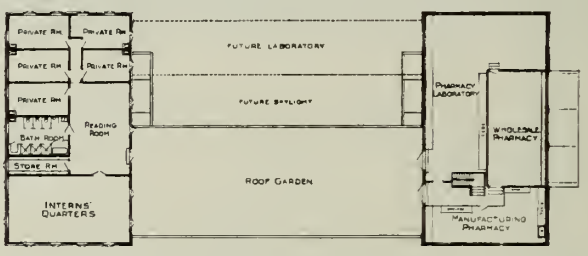

Fig. 10. Free dispensary and pharmacy buildings. Second floor plan.

surrounding territory; (10) cooperation in facilities and personnel with all official and public societies and organizations looking to the improvement of health and social economic conditions.

PROFESSIONAL WORK

During the past year there were 7,116 patients treated in the hospital, with 685 births and 476 deaths. The total hospital days were 86,742. The free dispensary service handled 90,947 patients, of which 36,924 were first visits. The receiving and emergency service (including attending physicians' offices) cared for 17,131 patients. The out-patient visiting services in obstetrics had 7,355 patient visits, with 575 births and 48 deaths. Total births in hospital and out-patient service, 1,260. The total patients for all services were 116,230, with 337,918 patient visits. Of the hospital patients, 450 were Americans, 6,438 Filipinos, and 256 other nationalities.

ORGANIZATION

The organization includes the hospital, school of medicine, graduate school of tropical medicine and public health, school of pharmacy, school of dentistry, and school of nursing and midwifery. There are twenty-five departments, each department being further subdivided into such units as are required by the nature and volume of the work. So far as possible, each department handles all the work of the college and hospital which may properly be classed as one of its functions.

As director of the hospital, the head of this organization is responsible to the secretary of the interior for the hospital, and as dean of the College of Medicine and Surgery to the president and Board of Regents of the University of the Philippines. Subject only to law and the jurisdiction of the secretary of the interior, he has administrative and executive control of all phases of hospital work, including its funds. There are an assistant director, an executive officer, and a secretary to the director, whose duties are indicated in the titles.

Chiefs of departments are responsible solely to the director. Each one is accountable for the successful administration of his department, and the proper and efficient discharge of all functions pertaining to it. Each department is required to hold constantly in view the discharge of three principal functions, namely: (1) teaching, (2) routine work, (3) research or investigation.

Each chief of department controls all the hospital, free dispensary, out-patient, and teaching work of his department. Expert assistance or collaboration in some special work is arranged by conference between the chiefs of appropriate departments. For example, the chief of the Department of Obstetrics in the college and hospital has charge of all of the staff of both institutions, and new appointments and promotions are made on his nomination. He controls all free maternity beds in the hospital, has a special clinic in the free dispensary, and the department operates a large out-patient visiting maternity service for the poor of Manila. This service is operated on an emergency basis, with motor transportation for physicians and nurses, and serves for practical instructions to graduate and undergraduate students of medicine, nursing and midwifery. The Department of Pediatrics is similarly organized, except that its social service work is limited to the free dispensary clinics. The Department of Medicine expands its social service work through affiliation with the Antituberculosis Society.

We have tried both the "ward unit laboratory" and the "centralized clinical laboratory" plans, and the latter gives us much better satisfaction both in practical work and certainly in teaching. All interns get clinical laboratory service as part of their rotation, and any member of the staff may do his own work in the laboratory if he so desires. The teaching of the subject for all students of medicine, nursing, etc., is carried on by the staff of the laboratory.

Nursing, with divisions of dormitories, housekeeping, subsistence, and practical nursing, is handled entirely by the faculty and students of the school. The principal of the School of Nursing is superintendent of nurses. There are four large dormitories—three for female

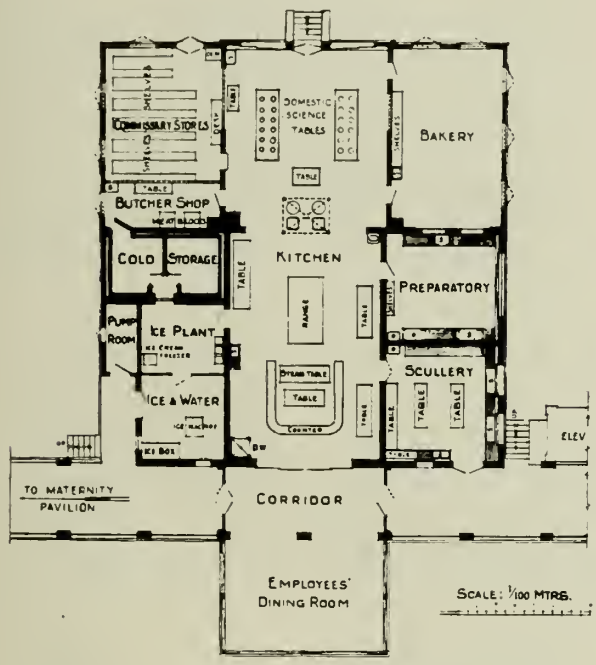

Fig. 11. Kitchen. Ground floor plan.

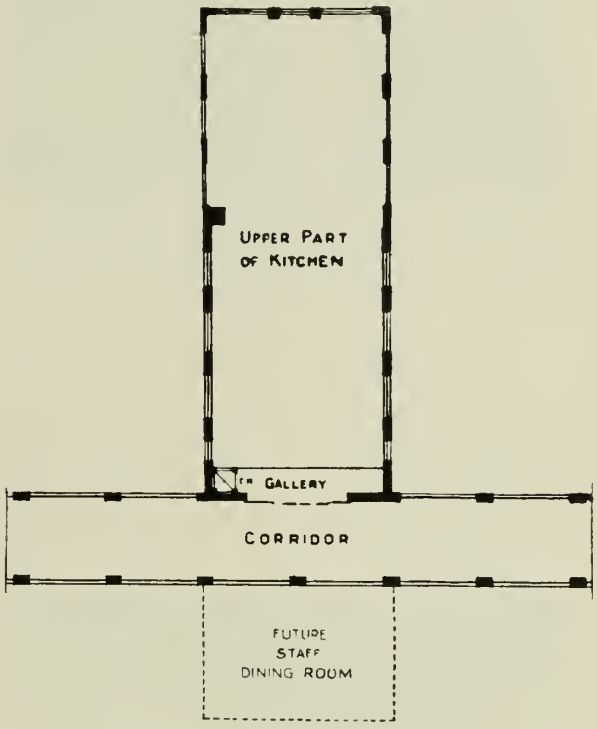

Fig. 12. Kitchen. Second floor plan.

and one for male nurses and students. These are managed by supervising nurses who are instructors in the school. The subsistence division handles the kitchen and teaches practical dietetics. Housekeeping and linen services are operated entirely from a centralized unit by two supervising nurses, who are also instructors in the school. Sewing, care, and issue and accounting for supplies are taught in this unit. The practical nursing division, with its supervisors, head nurses, and students, does all the work for the hospital. All supervisors and head nurses are teachers constantly on duty with their students.

The pay department of the hospital is separated in space and partially in personnel from the free-patient section. This department is largely a private-room service for the care of Government employees and the better class of private patients. Any reputable physician may have his private patients admitted to this department. As a matter of fact, the space usually is kept fairly filled with private patients of the members of the regular staff, and therefore medical students see an unusual amount of work among the better class of patients. The most important phase of this service is that it furnishes opportunity for nurses and senior students to obtain necessary experience in this class of work, and it furnishes equal opportunities to the subsistence division and to specially selected interns.

The well-equipped manufacturing division of the pharmacy, the modern pharmacy bookkeeping, including accounting under the Harrison Antinarcotic Law, the figuring of costs, profits, etc., of the pharmacy are used in instructing graduate students. Altogether, the coordination of teaching functions and practical work in this department leaves little to be desired.

Chiefs of college laboratories of fundamental science departments, like anatomy, physiology, etc., hold corresponding positions in the hospital organization, and are encouraged under proper collaboration with the clinical departments to investigate problems peculiar to their specialties. Conversely, clinical departments have courtesies in the laboratory departments, and collaboration in investigation is encouraged at all times. In a word, every semblance of a line of demarcation in interest or otherwise between college and hospital is destroyed by a common personnel, common interest, and united function. The only ex-

ception to this is in the control and expenditure of funds. College funds are under control of the Board of Regents of the university, while the hospital, being an independent administrative unit of the Government, has funds under control of the director. This is as it should be. A Board of Regents is too large and unwieldy a body to

Fig. 13. Pharmacy laboratory.

handle funds for a large general hospital, and fulfills its function in controlling the personnel of its staff.

ADMINISTRATIVE DEPARTMENTS

The more strictly business departments of the hospital, such as finances and records, property and supplies; engineering and general service, have each a definite organization, with a chief, the necessary assistants, and facilities and re-

Fig. 14. Free maternity ward.

sponsibilities commensurate with the duties to be discharged. The stand is taken and maintained that business efficiency is as necessary in a hospital as it is in a commercial house, and in carrying out this policy, we have been able to produce strikingly economical administration.

THE GROUNDS AND BUILDINGS

The hospital has one of the most beautiful locations in Manila. The campus, which is a common one occupied by the hospital, College of Medicine and Surgery, and the Bureau of Science, covers six city blocks. It was formerly an exposition ground, and is well shaded with acacias and otherwise made beautiful with sunken gardens, palms, and shrubbery. Adjoining the campus is that of the University of the Philippines on one side and the observatory on another. The hospital fronts on Taft avenue, one of the main boulevards of the city. The block plans of the campus, showing all present and future buildings, may be seen in Fig. 1. More detailed ideas of

Fig. 15. College of medicine and surgery.

the construction of various pavilions and units are given in the various illustrations.

The physical arrangements for the utilization of space are excellent. The unit construction is peculiarly adapted to the warm climate. The long open corridors and porch-surrounded wards assure convenience, perfect ventilation, and architectural beauty. All construction is of reinforced concrete, with massive walls and red tile roof.

Fig. 16. Lobby and information service.

Architecturally, the two-story pavilion plan of construction, with connecting wide corridors, is carried out throughout the plans. This type of architecture has two faults which readily suggest themselves to the experienced hospital man. They are, first cost and expensive service due to long distances between units. Except for the very

cheap labor of this country, the cost of cleaning and conducting the various unskilled services of the hospital would be prohibitive, to say nothing of the increased nursing service such construction demands. From every other standpoint this form of construction is ideal, and in this hot country the disadvantages are overcome by the increased comfort and ventilation assured all patients and employees.

ADMINISTRATION BUILDING

The building (Fig. 2) answers its purpose very well. The first floor contains the administration offices, reception room, and postoffice. In the lobby is located an information center, which is the heart of the whole hospital. This office is headquarters for the chief of the general service department, which controls telephones, information service, messenger service, transportation, gardeners, and employs and discharges all labor. A supervising nurse also makes her headquarters here, and is in constant touch with all branches

Fig. 17. Histology laboratory.

of her service and with the public. One end of the second floor of this building is made into quarters for the house staff and the other end is the library.

WARD UNITS

The general plan of the various ward units is the same throughout the building. There are interior modifications to meet the requirement of special services, such as private rooms, maternity wards, etc. The floor plan of unit 8 is shown in Fig. 4.

SURGICAL BUILDING

The floor plan of this unit is shown in Fig. 7. There are two operating units, with amphitheaters for clinics—one private and one emergency operating unit. The special examination unit for eye, ear, nose, and throat, and general dark room are well equipped. The roentgen department and clinical laboratory also are in this building.

PHARMACY AND DISPENSARY BUILDINGS

The plans for these are shown in Fig. 8. With the alteration in structure and rearrangement of space made during the year, these buildings are very satisfactory. With the large increased space assigned, however, to the dispensary, the clinics are beginning to be overcrowded, and provision was made for the building of an annex during 1916.

Fig. 18. Manufacturing pharmacy.

TEACHING FUNCTIONS

The College of Medicine and Surgery of the University of the Philippines conducts all teaching activities through the School of Medicine, the Graduate School of Tropical Medicine and Public Health, the School of Pharmacy, the School of Dentistry, and the School of Nursing. These schools are all departments of the Government university and the practical instruction in all of

Fig. 19. Teaching diet kitchen.

them is carried on in the Philippine General Hospital, Free Dispensary, and out-patient services. Such a volume and variety of educational work is carried on efficiently without friction or confusion only by close blending of the organization of the college and hospital, and by the united control of both institutions under one executive head.

EFFICIENCY

It is the policy of the hospital constantly to strive for ever-increasing efficiency, to encourage economy as distinguished from parsimony, and to investigate promptly every complaint or criticism. All officers and employees are urged to offer suggestions for the improvement of the service in any department. Recommendations or suggestions leading to economy without impairing efficiency are particularly welcome. Employees offering suggestions which are later adopted receive credit for them on their efficiency reports.

EFFICIENCY MEDALS

In order to emphasize the importance of efficiency and to keep it constantly and attractively before employees and students, a system of rewards of medals for meritorious service was introduced, and has been in effect for several months. Efficiency medals are awarded on a basis of (a) aptitude, adaptability, and intelligence; (b) loyalty and cooperation; and (c) efficiency. The medal may be worn for one month. Chiefs and assistant chiefs of departments and divisions, members of the staff, and supervisors are not considered in this plan. The medals are awarded publicly at a general meeting of the staff, and there is a healthy spirit of competition among the beneficiaries for the honor of wearing the medals. The medals for December were awarded by the governor-general, and his indorsement has made the policy a more useful and attractive one.

HOW MUCH COAL DOES A PATIENT COST?

Power Plant Economies Mean More Money for the Care of the Sick—Discussion of Types of Fuel Consumers and the Results

By R. C. BEADLE, Consulting Engineer, New York

THERE is probably no authentic information on file giving the average cost of producing power in hospitals. This situation is primarily due to the fact that each hospital operates under somewhat different conditions from those of every other hospital, and average figures in such a case are difficult to obtain.

It has been asserted on competent authority, however, that for hospital maintenance in the United States approximately $250,000,000 per year is expended, serving from 400,000 to 600,000 patients, and that $250,000,000 a year is spent in the construction of new buildings. If we take into consideration hospitals that treat other than general cases, and include tuberculosis hospitals and hospitals for the insane, these figures could be approximately doubled.

There is probably no activity of man that calls for a more careful study of the plan and service than does the construction and administration of a hospital plant. When considering its real function as the human repair shop which saves annually the lives of thousands of patients, restoring their earning capacity and their value to the community, we can truthfully say that too much attention cannot be given to the best methods of equipment and administration. The factor of cost should never be weighed against any method or means that can restore more of these patients quickly and comfortably to the community.

A hospital being an institution for the most expert practice of medicine, when we think of such an institution and the expense involved in maintaining it, the layman, at least, naturally assumes that the cost of medical supplies and administration is the largest and most important factor in the budget. That this is not the case the physician will readily appreciate, but there should be at all times a constantly increasing fund to place at the disposal of the medical man, additional facilities for research, and funds for additional equipment in these most important of all workshops. As an instance in point, one of the greatest hospitals of the United States spends two-thirds of the sum that is required for medical supplies on the single item of fuel to operate its power plant and heat its buildings.

Modern industry, during the past five or six years, has studied this problem of efficiency in the power plant, and in many cases has shown that remarkable economies are possible. If, for every dollar expended, it costs an average hospital 7 cents, we will say, for power, and 10 cents for medical supplies; and if, by spending a little thought and some money on proper means of checking up and operating the boilers in the modern way, it is possible thereby to take 1 cent from the cost of the fuel item and add it to the medical supply item, is it not fair to say that that hospital would benefit doubly, first, in the percentage of saving in the expenditure for fuel, and, second, in the percentage of increase in funds available for medical supplies, and, perhaps, a broader opportunity for research work on the part of the staff?

In the construction of such a building as a hos-

pital the folly of cheap equipment and cheap design should be studiously avoided; only the best can be safely used.

The best is not necessarily the most expensive, but it is essential that the medical staff, the consulting engineer, and the board conduct very careful investigations at the outset to determine the equipment in all departments that will give the maximum results with the least amount of trouble and the least possible chance of its being out of service at a critical moment, and at the least possible cost for upkeep.

A vital part of the construction, and more vital to the operation of any such building, is its power plant. That power plant, if improperly designed, can eat up, in the course of a year, funds that should go to the general purposes for which the building exists. A little careful thought and investigation at the beginning will, in the course of a few years, very often pay many times over the cost of equipment of the power plant, just as well as it oftentimes pays its cost in the manufacturing plant.

In considering the power plant of such a building we naturally have to make three divisions:

1. The small hospital serving a limited population and having few beds, which either has no power plant at all, or a plant designed merely for the purpose of heating. Such a plant we may safely disregard in so far as the purposes of this article are concerned.

2. The plant that serves, we will say, 300 to 350 beds. Such a plant of necessity would have to take care of a refrigeration plant, a sterilization plant, the heating of the building or buildings, the electric light plant, the laundry, etc.

3. The very large hospital located at a great center of population, having all of these factors to care for, but in a much larger capacity.

In the case of the first hospital, the question of the design and equipment of the furnace and grates is of minor importance. As the capacity of the plant increases, however, the importance of proper design and equipment in the power plant increases in a greater ratio than the ratio of increase in size. As we approach the plant that would be covered by our second citation, we would approach that stage in hospital design at which the consulting engineer, well versed in the problems of combustion, should be consulted.

That is, it is wasteful to install any equipment but that which is best suited to the needs of a given condition; right here it might be illuminating to cite the instance of an apartment house building which had been put up on the theory that a grate bar was a grate bar; while the greatest attention was given to all points of service and appointments. When it came time to operate the building, it was found that during the severe winter months it was impossible to make enough steam to serve the needs of the building. Tenants were being lost; something had to be done. A combustion engineer was called in. He studied the plant and recommended that a certain type of grate be installed, which was done. The total cost of the change was between $600 and $700, and the net result of this change was the supply of adequate heat at all times to all parts of the building, and a saving of $42 a month in the cost of fuel.

This saving could have been just as well effected from the beginning as a year after the building was up; it was a case of improper advice and lack of information at the start. The cost in dollars and cents in correcting that mistake was insignificant when compared to the damage in reputation to the real estate caused by the failure of the power plant at critical times.

In the smaller plant that is not of sufficient size to warrant mechanical means of firing the boilers, careful study should be made of the available coal supply, and the average cost of the cheaper fuels in the territory in which the building is located, for, with proper engineering and design, the low-grade fuels can be, and are, successfully burned with remarkable economy.

An expert in combustion should be called in to advise as to air spacing of the grates, and general grate design. In cases in which the grates are purchased in conjunction with the boiler, it is oftentimes advisable to specify, after the information is in hand, the type of grate which you wish the boiler contractor to supply.

In some districts it will be found that hard coal, with forced draft, can be successfully employed. In some cases it will be found that it is an advantage to design the plant to make use of natural draft, but with an auxiliary equipment of forced draft to take care of any excess in the load. In such a case it would be possible to operate a much smaller boiler unit under normal conditions, and slightly force the boiler during the few hours in the evening when the lighting load or any other demands for steam made it desirable to increase the boiler plant's rating, by simply turning on the blower. This is done in many small manufacturing plants. In the case of the larger plant, mechanical methods of firing should by all means be adopted.

In laying out such a plant the ideal plan, of course, would be to design a boiler room removed some distance from the buildings of the hospital proper, and to install boilers that would carry the load at a little above its lowest average, because by means of mechanical firing, the forcing of the

boiler beyond its normal rating is extremely simple, and, if not carried to extremes, more economical than operating boilers at rating.

Such a layout has the additional advantage of saving a not inconsiderable sum of money in the first cost, in that we are often able to eliminate one or more units; and it must be borne in mind that by those eliminated units we not only save the first cost of the boiler, but inasmuch as these large institutions are generally in centers of population where realty values are high, we also save on the size of the boiler plant, and thereby reduce charges for taxation, as well as depreciation and upkeep.

In considering the best method of accomplishing these results we naturally come to the consideration of the type and class of apparatus to be used. This should be determined by the general conditions in the locality in which the plant is situated, labor conditions, funds available, and the load factor.

There are three general basic principles on which devices of this sort operate, and, without citing any particular apparatus, it is the purpose of this article to give in a general way an outline of the results accomplished, and the method of operation of such devices expressed in terms that may be readily understood by the medical man responsible for the operation of the hospital, by the members of the board of governors, who are responsible for its administration, and by any others who, though interested in the efficiency and economy of the institution, are not sufficiently versed in technical terms to grasp with any degree of comprehension the various treatises by mechanical engineers upon this subject.

Mechanical means for firing fuel were first developed by English inventors back in 1848-49. The first mechanical stoking apparatus embraced a hopper placed in front of the furnace above the furnace door which was designed to be filled with fuel, and the fuel deposited on a dead-plate in the front of the furnace by means of pulling out a sliding door in the hopper. The purpose of this design being to introduce green fuel into the front end of the furnace in such a way as to enable the gases which are distilled as the coal comes in contact with the heat, to pass over the incandescent fire-bed and be consumed as they travel toward the stack, thus avoiding the necessity of opening the furnace door and reducing the temperature of the furnace by introducing green fuel on *top* of the fire, thereby reducing the efficiency of the furnace.

At about the same time, generally speaking, the idea of the traveling or chain grate was developed, the chain grate being a device made up of a series of grate bars attached on each side of the furnace to a moving chain. The coal deposited on the grates by means of a hopper at the front end of the furnace is conveyed very slowly into the furnace and ignited as it went along, as the rear of the furnace is reached the resulting ash is carried over into the pit below. The chains are actuated by sprocket wheels, which were in turn mechanically driven. This type of stoker is, with many improvements and refinements, installed in many parts of the country today. On certain grades of coal it is very successful; one of its limitations, however, is that it is usually designed to be operated with a natural draft. It can be materially increased in its value in the power plant by so designing as to embrace the use of forced draft, thereby having the additional advantage of a more sensitive control.

There are probably at least half a dozen makes of this apparatus on the market, and it will be found that the engineering departments of these concerns are ever ready to supply a surprising amount of detailed information without cost to the owners of power plants throughout the country who have evinced their interest in improving their conditions.

A distinctly different type of apparatus is that known as the overfeed stoker. There are some four or five companies manufacturing these devices, all of which are on the same general principle. A hopper is placed rather high up on the front of the furnace, and a grate resembling a flight of stairs with steps placed close together in general design and agitating the fuel by the means of either a movement of the steps, or by special "fins" or "fingers" placed at intervals along the grate, keep the fire-bed agitated so that the ashes are ultimately deposited on a plate at the back of the furnace which is dropped by the movement of a lever at convenient intervals, by the firemen, and the refuse discharged. This stoker is also designed for use with natural draft, and it is only in rare instances that this design is ever modified to embrace the use of forced draft, and then usually on the request of the purchaser.

Generally speaking, these two types of stoker, while delivering excellent results in the main, have two inherent weaknesses with which mechanical ingenuity has so far been unable to cope. This is the maintenance cost and the trouble which is sometimes given with certain grades of coal in removing the ash from the back end of the furnace. At the back end of every furnace is what is known as the bridge wall, constructed of brick. This portion of the furnace is under very high temperature, and in some coal there is a high content of sulphur, which has a tendency to "fuse"

with the ash and form a clinker. These clinkers sometimes take such proportions as to choke the dumps before they can be removed. They are then apt to fuse to the face of the bridge wall, so that considerable labor is necessary in cleaning the fire. Practically the only successful means so far used to any great extent to overcome this condition is the placing of a waterback in the bridge-wall in such a position as to keep this part of the furnace sufficiently cool to prevent the adhesion of such clinker. While this accomplishes the desired result, it increases the first cost of installation and increases the cost of operation.

In any mechanical device for feeding coal we have certain moving parts, certain delicate construction, and a tendency in some cases toward a complication of mechanism which is not desirable in a furnace. The overfeed types of stoker and the chain grate have a peculiar advantage in that they are not particularly overburdened with these weaknesses, although some types are more expensive in their maintenance cost than others.

The next division is the underfeed type of stoker, of which we have at least five different designs, all operating on the same general principle, but accomplishing different results by different means.

The underfeed principle of firing is one of the oldest mechanical principles in stoker design and construction. It has had a long period of development, and has the advantage of being a logical method. The coal by this method is introduced into a hopper, as in the other stokers, but instead of being introduced at the top of the furnace and precipitated toward the rear by gravity assisted by certain moving parts, it depends entirely on mechanical means for the feeding of the furnace. The coal introduced into the retort is so charged that it fills the retort and overflows on each side continuously; as it is then pushed up underneath the fire, a current of fresh air is forced through openings at the sides of the retort and mingles with the gases which are distilled from the coal as it moves upward toward the incandescent fire bed. These gases then travel on through the fuel bed, and, having been properly mixed with the oxygen, are readily consumed. In this point the underfeed types of stoker undoubtedly have a tremendous advantage over the stokers which introduce the green fuel on top of the fire without regard to a proper mixture of fresh air, and depending upon the furnace temperature and natural draft to consume these highly combustible gases before they have a chance to be chilled by contact with the boiler on their way to the stack. It is because of this recovery of gases that the underfeed manufacturer is able to make guarantees that far outstrip any other method, in so far as efficiency is concerned, and particularly in so far as he is able to guarantee the boiler to continuously maintain high overloads.

In speaking on this point of overloads it is proper to mention here that by overloading the boiler we do not mean strain it in any degree. It might more properly be said that the underfeed type of stoker embracing forced draft overrates the boiler rather than overloads it. With fire of a certain temperature burning coal at a certain rate of combustion, so much water can be turned into steam in a given time; if it is possible to make the fire twice as hot or burn coal at a higher rate it is also possible to make steam faster, and in many cases, in the great central stations, for instance, guarantees are required which will enable the operator of the boiler to make steam with a stoker three times as fast as with a hand-fired grate. Thus is illustrated the point of saving in the units installed by installation of stoking apparatus best adapted to meet conditions.

To illustrate, we will assume that a certain plant is designed to have four 300 H. P. boilers, hand fired. Your combustion expert comes along and tells you that if you install an overfeed type of stoker you can operate this entire plant with three 300 H. P. boilers, and that if you install an underfeed type of stoker at increased expense, you will be able to operate this entire plant with two 300 H. P. boilers. You will then have before you a simple example in mathematics to figure out—whether it is more economical to install a stoker that will give you satisfactory results with limited capacity at a reduced cost, or a stoker at an increased cost that will double your capacity and give you absolute flexibility in the power plant.

There is no power plant in the country in which it would be impossible to show some economies; in some plants where boilers are being hand-fired it is not unusual to find that these boilers are operating at 50-percent efficiency, and that the losses thus entailed represent a considerable proportion of the actual money expended in coal and labor. It is, generally speaking, however, untrue to make the statement that the main advantage from any method of mechanical stoking is primarily traceable to the economies in labor. There are undoubtedly hundreds of hospitals throughout the country which could effect a material saving in the operation of the power plant, but which could not under any consideration get along with fewer men than they now employ. This statement is particularly forceful at this time when the price of coal has advanced materially, and there seems to be no relief in sight.

I have in mind the case of two manufacturing

plants in which the saving in fuel alone amounted to over $20,000 each, simply by the increased efficiency that mechanical stoking was able to give.

There is another false impression that has somehow gained headway among many to the effect that it is not permissible in large cities to burn bituminous coal; this is an error. I am familiar with this subject, and know of no community that has such a law upon its statute books. Practically all progressive cities have placed upon their books, however, laws governing the emission of soft-coal smoke, and prohibiting a stack from smoking more than a certain number of minutes in any given hour. All of the stoker manufacturers of any type guarantee their apparatus against smoke.

In the case of the overfeed type a brick arch is placed in the front of the furnace, which overhangs the fire for a short distance, and this arch is so designed that it heats up very quickly and becomes incandescent. The gases which ordinarily make up smoke flow against this arch on their travel to the stack and its incandescence consumes them.

In the case of the underfeed stoker the gases are consumed as they pass through the bed of red-hot fuel automatically mingled with fresh air in an automatically predetermined quantity, insuring their elimination.

All stokers will smoke if forced beyond their designed capacity, particularly the natural draft types. The underfeed types have a larger range over which they will operate than have any of the overfeed machines, and are much better, generally speaking, in preventing smoke, as is proved by the experience of large power stations throughout the country.

Thus we see that the problem of proper combustion reduces itself to one of forethought and proper design; and in my mind the hospital board should give as much attention to the prosaic problem of its fuel supply, its method of burning it, and the elimination of smoke, as it should to the design of its operating room, and the purchase of supplies in its medical department, for the money that is spent should show results, whether in the medical department or in the power plant.

It may be interesting to the reader to see a concrete table of a typical plant, perhaps somewhat larger than the average, but one which will give the general scale of the economies between the low-efficiency hand-fired method and the maximum efficiency attained by modern methods.

In the case of the hand-fired plant a little better than average conditions prevail, and in the case of the same plant stoker-fired a general good average condition is cited.

COMPARISON OF COST OF HAND-FIRING AND STOKER-FIRING

Installation cost—		
Stokers	$ 8,000	
Coal and ash handling system	2,000	
Investment cost	$10,000	
Interest		5 percent
Depreciation		10 percent
Maintenance		1 percent
Charges against investment	$1,600	=16 percent
Labor cost, hand-fired—		
4 men day, 3 men night—7 men at $3 for 365 days	$ 7,650	
Labor cost, stoker-fired—		
2 men day, 2 men night—4 men at $3 for 365 days	4,380	
	$ 3,270	
Coal cost, hand-fired—		
8,760×38 percent load factor 1,000	3,320,000	H. P. per hour
Coal per year at 60 percent efficiency (13,500 B. T. U.)	13,720,000	per hour
Coal per year	6,140	tons
Coal cost, stoker-fired—		
Cost per year at 73 percent efficiency (13,500 B. T. U.)	11,320,000	pounds
Coal per year	5,300	tons
Coal saved by stokers	840	tons
Amount saved by stokers 840×$5	$4,200	
Amount labor saved by stokers	3,270	
	$7,470	
Labor saving	$7,470	
Less charges against investment	1,600	
Total amount saving	$5,870	

A return of 58 percent net on the investment.

Thus it will be seen that in the case cited at least 50 percent of the annual expenditure in the boiler plant could be saved and averted to other purposes, and at the same time bring the power plant to a higher general state of efficiency.

These are the days of getting the most for the dollar. Efficiency and capacity are the keynotes of 1917 success, and it would seem that, inasmuch as the majority of the large stoker companies maintain engineering departments designed to give expert information on the question of fuel consumption and power plant efficiency without cost, the progressive hospitals throughout the country should take advantage of this service and ascertain whether they are getting full value, dollar for dollar, in the power plant. If this were done, I am confident that the savings which could be guaranteed would range anywhere from 10 percent to 30 percent, and in some cases perhaps higher, and this assumption is not based upon a guess, but upon a reasonably long experience in meeting conditions of this kind in power plants throughout the country.

Some people don't believe in the germ theory of disease. The fact that some folks still think the world is flat doesn't take any of the curves out of the globe.—Illinois Health News.

THE TUBERCULOSIS PREVENTORIUM FOR CHILDREN, FARMINGDALE, N. J.

An Institution for Preventing the Development and Spread of Tuberculosis Primarily Among Children—The First of Its Kind in the Country—Care of Infants of Tuberculous Parents a Unique Feature

By J. PALMER QUIMBY, Superintendent Tuberculosis Preventorium for Children, Farmingdale, N. J.

HAVING been informed of the large number of poorly nourished children in families in which one or both of the parents were tuberculous, in March, 1909, Mr. Nathan Straus offered to give a half interest in the Lakewood Hotel property at Lakewood, New Jersey, to be used for the care of such children. This action was taken through the intercession of Mr. Marcus M. Marks, who immediately organized a board of directors composed of leading physicians, prominent women,

Fig. 1. Administration building, Tuberculosis Preventorium for Children, Farmingdale, N. J.

and men of affairs. Mr. Marks was selected first president of the institution, and its subsequent development was in a very large measure due to his enthusiasm, devotion, and untiring efforts during the trying period of organization and construction.

The Cleveland Cottage, connected with the Lakewood Hotel, was at once altered to accommodate 40 children, and a simple open camp erected. The first children were admitted to this on July 2, 1909. Later considerable opposition developed to the establishment of the preventorium in Lakewood, and the board of directors, after careful consideration, determined to seek another location. Mr. Arthur Brisbane then offered to the board of directors a farm of 170 acres, located near Farmingdale, New Jersey, seven miles north of Lakewood, to be used as a site for the institution. The board of directors gladly accepted this offer. A small farm house situated on this property was remodeled for temporary use, and the children transferred to the new site on April 28, 1910.

Additional open-air sleeping porches and tents were added, and thus a small preventorium with about 40 beds was established. These buildings, since altered and extended, are being used for reception quarters.

The institution was organized primarily for the care of poorly nourished, underfed children, exposed to tuberculous infection in their homes, who had already contracted tuberculosis, as shown by a tuberculin reaction, but who had no open disease. At this time no similar institution existed in this country.

There was no place to send these children; in the summer some could be sheltered for a few weeks in fresh-air homes; in the winter a very few could be sent out of the city by unusual effort, but there was no institution in New York or in the United States specially designed for the care of this large group of afflicted children. Such was the basic social condition which led to the foundation of the preventorium.

At the preventorium in Farmingdale, New Jersey, over 180 children are accommodated. They

Fig. 2. Exterior of open-air school, Tuberculosis Preventorium for Children, Farmingdale, N. J.

are kept for an average period of four and a half months, so that the institution provides annually for nearly 600 children.

In addition to a reception pavilion, where all children are quarantined for three weeks in order to prevent infection of the large group, there are four open-air shacks, each accommodating 32 children, a small infirmary, school buildings, a large administration building, with dining room which seats all of the children, and last, but not

least, 170 acres of land in the sandy pine belt, over which the children roam and play.

Children are accepted between the ages of 4 and 14 years, so that it is necessary to provide school instruction for them in order that they may not be behind in their studies when they return to school in the city. There are at the preventorium three licensed teachers, and a two-hour school period is provided. This amount of instruction—ten hours a week—has been found sufficient to keep the children up to public school grade.

This mental invigoration of the children is to be attributed to the improvement in their physical condition, and to the stimulating effect of the open-air school. In addition to the general in-

Fig. 3. Interior of open-air school, Tuberculosis Preventorium for Children, Farmingdale, N. J.

struction, the girls have their sewing classes, and in the summer both boys and girls have their class gardens.

The work of the Farmingdale Preventorium is intimately connected with that of the many tuberculosis clinics of New York. During the stay of the children at the preventorium the conditions in their homes are investigated. This is one of the most difficult problems encountered in the work. Some homes cannot be improved. Others can be bettered by sending the tuberculous member to a sanatorium, by giving instruction in cleanliness and hygiene and the proper disposal of sputum, and by considering needs with relief organizations and obtaining aid or additional assistance. Every six months after discharge the children are to be revisited in the home and their physical condition and surroundings noted. It may be said, however, that the children maintain their improvement in weight and strength surprisingly well; that they are taught a lesson in hygiene, and that a method of healthful living is demonstrated to them which can never be forgotten; that not only the advantages, but the pleasure, of life in fresh air have been instilled into their very natures.

The executive committee of the preventorium,

Fig. 4. Open-air sleeping porch, southern exposure, Tuberculosis Preventorium for Children, Farmingdale, N. J.

at first with some hesitation, determined to help the general tuberculosis campaign by giving employment by preference to tuberculous patients with arrested disease—those who had been discharged from the various sanatoriums. At present there are at Farmingdale 15 people of this

Fig. 5. Corner of the infantorium, Tuberculosis Preventorium for Children, Farmingdale, N. J.

class. Occasionally one of these cases has relapsed. The plan on the whole has been successful, and the preventorium has reason to feel much encouraged in what may be called its auxiliary work.

The preventorium derives its support partly from the voluntary contributions of friends, and partly from a per capita allowance from the city.

In 1914 there were at one time 200 children in the preventorium; these children represented 120 families. The visit to the institution of a tuber-

culous mother, carrying her infant in her arms, suggested that it would be of interest to inquire how many more infants under the age of 2 years there were in the 120 homes. The result of the inquiry showed that there were 42 infants under 2 years in these homes. In very many homes there was more than one member suffering from tuberculosis, frequently in the second stage of the disease.

We find in practice that it is feasible in only a few cases to safeguard the home by sending away the tuberculous member of the family. The mother cannot be spared from the household, for the very reason that she has the infant to care for, as well as because there are usually other children. (The mother constitutes the tuberculous member in over 50 percent of our cases.) After diligent inquiry as to what could be done to remove these

Fig. 6. Improved infantorium beds designed and made at the Preventorium, Tuberculosis Preventorium for Children, Farmingdale, N. J.

infants from their infected homes, the question was put to a member of the Department of Public Charities. He answered: "In so far as I have been able to gather, and I have caused inquiry to be made, at the present time we have no agency or institution in this city equipped to care for the particular class of children you describe."

To make a beginning in this direction the preventorium arranged to use a portion of a building for infants. A nursery was equipped for the care of 12 infants, and up to the present time has proved successful. Since May 1, 1915, there have been admitted to the preventorium, or rather to the "infantorium," 32 infants of tuberculous parents. The mothers of ten of these infants died of tuberculosis during the stay of the baby here, and one father also died of tuberculosis.

Infants remain in the charge of the institution for a period of one year. During this time they practically live in the open, and their resisting power is materially increased.

It is hoped that after the nature of the institution's work is understood it may act as a stimulus to the organization of many more preventoriums and infantoriums in the large municipalities of the country.

Not Advertising Flour

A well-known brand of flour is advertised by this slogan: "Eventually—why not *now?*"

Judging from the experience of other states, as well as the experience of the more progressive cities and towns of Illinois, there are certain things which are coming to your town. They are coming in the hope that they will be warmly welcomed and encouraged; but, whatever be their welcome, as a part of the march of progress, they are coming. We may delay them—just as the advertising agent imagines we may delay the purchase of his chosen flour; but eventually they will come. WHY NOT NOW? These things are tried and tested. They have gone through the experimental stage. There are no "ifs" and "ands" about them. In progressive civic affairs they are as sound as the Rock of Gibraltar. Every progressive town will encourage them. No unprogressive town can successfully battle against them.

Community nurses, public health nurses or tuberculosis nurses.

Free tuberculosis dispensaries. Not for paupers; but for those whose means have been curtailed by this decidedly "pauperizing disease."

County tuberculosis sanatoria.

Full-time medical health officers for the larger communities; medical health officers—free from the irksome restrictions of nonmedical boards of health—in all communities.

Decent compensation for the health officer who protects the lives and health of the community.

Health officers who will assume all of the authority—and, incidentally, all of the responsibility—for the control of communicable disease.

The abolishment of the health officer who is not qualified in preventive medicine, or the health officer who holds the job on account of his infirmities and deficiencies.

The divorce of politics from the local health department. The man who has nothing but politics as his claim upon the office should never have been appointed. This should be borne in mind in appointing his successor.

Investigation of local sanitary conditions, which means a local, searching, honest, sanitary survey. The garbage can of the banker smells as offensively as that of the lowliest citizen. Disease plays no favorites.—Illinois Health News.

Dr. W. D. Runyon, who for the last two years has been on the medical staff of the Union Printers' Home at Colorado Springs, Colo., assumed the duties of medical director at the Woodbury County Tuberculosis Hospital, Sioux City, Ia., February 1. Dr. Runyon was assistant superintendent of the Iowa State Sanatorium at Oakdale for three years.

Miss R. E. Driver, a graduate of the Buffalo General Hospital, Buffalo, N. Y., has opened a small private hospital at 399 N. Thirteenth street, San Jose, Cal. Miss Driver formerly conducted a hospital at Watsonville, Cal.

AN EXPERIMENT IN COOPERATIVE CARE OF THE INDIGENT SICK

Organization of the Local Profession to Take Over Community's Sick by Business Arrangement with the County Supervisors—How Funds Are Expended and Work Done

By W. B. SMALL, M. D., F. A. C. S., Waterloo, Iowa

At the spring meeting of the Blackhawk County Medical Society, in 1907, a committee was appointed and instructed to go before the county board of supervisors at the April meeting, and to underbid anyone who put in a bid to do the county poor work. This committee went before the board of supervisors, secured the work at the price of the offer of the highest bidder and entered into an agreement with them for one year.

Under the terms of the contract the medical society was to furnish, through its members, to the sick county poor, including the county farm and the county jail, all necessary medical and surgical service, including medicine and surgical dressings, but excepting and not including attendance on cases of small-pox, and not including the furnishing of antitoxin. For this service the society was to receive $830 per year, payable quarterly to the treasurer of the medical society.

The reason for the appointment of this committee at the April meeting was the custom, which I believe is general throughout Iowa and other states as well, and which seems to have received the encouragement of the county supervisors, for the physician or physicians who want to do the county charity work, to submit sealed bids to the board of supervisors at their April meeting, the supervisors entering into contract with the successful bidder to do the work for the ensuing year. The Blackhawk County Medical Society never had favored this way of doing the work, and had always discouraged the practice—sometimes by getting every member to sign a petition agreeing not to bid for the poor work, sometimes by persuading members not to bid without formally circulating a petition, and again by passing a resolution at a regular meeting declaring that a member in good standing would not submit a bid—of course the fellows who really wanted to put in a bid kept quiet. The majority of the members had thought, and still think, that when the contract calls for the work to be done by one person, the larger part of it is performed by the profession in general, leaving the minor or smaller part to be done by the contractor who receives all the monetary compensation. On the other hand, the board of supervisors thought that when the work was not done under contract, but each physician was allowed to do what charity work he was called to do, rendering his bill accordingly, they were at times imposed upon by the unscrupulous. This suspicion was, I fear, too often well founded.

The result of this contention between the supervisors and the medical society was not always conducive to the best interests of the party chiefly concerned—the poor. I very well remember one occasion when the medical society had every physician lined up on a petition and they held fast, not one breaking away. The supervisors then contracted with the janitor of a Cedar Falls church who had received a license on account of having practiced the required number of years prior to the passage of the medical practice act. However, the real immediate cause of the appointment of the committee was the discovery that a member of the society who had formerly done the work had again bidden for it. It was then that a few of the members got together and formulated the plan of the county society bidding for the work.

After two years, the physicians of Cedar Falls and Hudson preferred to make their own arrangements to care for the poor in their respective townships. This being the case, in 1907 the Waterloo Medical Society bid for and secured the work in the city of Waterloo and the townships in which it is located. The stipulated price was $600 per annum, payable quarterly. The society has received the contract for the work each year since, including the present.

A few years after the local society began doing the work, arrangements were made to include small-pox cases, the detention hospital and the city jail, with a corresponding increase in remuneration. For the year 1916, $2,250 is the price agreed upon.

The avenue through which the sick reach the physician is the overseer of the poor or any member of the board of supervisors. Formerly the poor had the privilege of calling, through the overseer, the physician of their choice among the members of the society. The present arrangement of selection is to place in a receptacle the names of all willing members, excepting the specialists. The secretary draws a certain number of names for each month's service, allowing a larger number for the months of heavier work. A schedule of the year's service is furnished to the overseer, the supervisors and each member of the

medical society. However, even with this arrangement the sick still have the privilege of calling the man of their choice, and this is also the manner of assigning the work among the specialists.

The Waterloo Medical Society was organized in 1900 for the purpose, originally, of sociability and the oversight of matters of local interest. During the year 1912 a committee was appointed to revise the constitution and by-laws. This committee recommended incorporating, and asked for authority to incorporate, as well as to revise the constitution and by-laws. This power was given them, and on January 25, 1913, the Waterloo Medical Society was incorporated, not for pecuniary profit, under the provisions of Title IX, Chapter 2 of the Code of Iowa. We incorporated to be able to do business as an individual, and so that the individual members might be relieved of any financial burdens arising from mismanagement or other causes, as would occur under an unincorporated society. An objection was made to incorporating on the ground that the laity would point to it as additional evidence of a "medical trust." No such charge has come to our ears.

With the proceeds, instruments have been bought, a club room leased, and laboratories equipped. A full set of instruments was furnished for the operating room of the Presbyterian Hospital. They are kept in repair and are added to as requirements demand. The club rooms consist of finely furnished rooms suitably arranged for a meeting place. A large number of the leading medical journals are on file and a library has been started.

Roentgen ray laboratories have been installed in both hospitals and these are equipped with the latest apparatus and are owned jointly and equally by the hospitals and the society—the sole right of operating them resting in the society. Ten percent of the gross receipts goes to each of the hospitals for electricity. The current expenses, which include the salary of an assistant, if one be necessary, are then paid, and the remainder is divided equally between the Roentgenologist and the society. Thirty-five percent of the society's share is set aside as an x-ray fund.

The clinical laboratory is centrally located in the business section of the city and fitted out with all necessary modern appliances. The society was exceedingly fortunate in securing an experienced laboratory man, Dr. Guthrie McConnell, as director. He is guaranteed $200 per month and 65 percent of the earnings over and above the current expenses and the $200 guaranteed.

In the beginning, a roentgenologist was employed, but, this not being satisfactory, all the laboratories were placed under the supervision of the director of the clinical laboratory. Each laboratory is in charge of a committee of three which reports monthly to the society.

The clinical laboratory began work November 1, 1915, and the Roentgen laboratories in January, 1916. The time of operation has been too short to furnish any data of value in regard to their earning capacity. However, the earnings have been such as to encourage us and to lead us confidently to expect success.

This plan of taking care of the sick poor has been more satisfactory to the supervisors, to the poor and to the society than the old way. It may not be perfect, but it seems to be an excellent, practical plan, which presents many opportunities to the medical profession and to the people. A lack of funds is one of the things which interfere with the work of any society. This method of supplying the funds has its advantages and disadvantages, but is superior to any other method of which we have knowledge.

In the beginning some of the members thought that we would be doing a large amount of work for very little pay. Now, practically all the members believe that they do no more work than they did under the old system, when one man got all the pay and the others did the major part of the work without pay.

One of the problems of organized medicine is not only how to elevate the standard of efficiency, but how to raise our ideals. The plan outlined gives us not alone a way to obtain means to establish club rooms, suitable meeting places, libraries, and laboratories to increase our efficiency, but also funds to secure men of character, eminence and ability to deliver to us a series of addresses that will add to our knowledge and raise our ideals until we shall place service first and fee second and we shall obey the Master's command:

"Freely ye have received, freely give."

If Abel had only lived to construct the first infant metropolis, instead of Cain, doubtless he would have begun by laying out the streets, not east and west and north and south, as they usually are, but from northeast and northwest, to southwest and southeast. In this way the sun could reach all sides of a detached house and enter every window all year round. Even in a selfish city row, it could shine more surely and more generously into fronts and backs. The convenience of the surveyor does not outweigh the health of the householder.—Bull. Chicago School of Sanitary Instruction.

Miss I. Tautphaus has been elected superintendent of the San Francisco Home for Incurables, San Francisco, succeeding Mrs. D. Kidd, resigned.

COUNTY TUBERCULOSIS SANATORIUMS IN MINNESOTA

Attractive and Healthful Locations Chosen as Sites for Model Buildings—Excellence of Equipment—Rapid Extension of Work

By ROBINSON BOSWORTH, M. D., Executive Secretary Advisory Commission of the Minnesota Sanatorium for Consumptives, and SUND & DUNHAM, Architects, Minneapolis

A DECIDED change is taking place in the views held as to what accommodations should be provided in small county sanatoriums. While these institutions were new and their efficiency being established, many structures were erected which were sanatoriums or tuberculosis hospitals in name only. Those who have been in tuberculosis work for many years can recall that patients were often cared for and nursed and emergencies met under such conditions that it seems a wonder that the popularity of the institutional care of the tuberculous should have shown the steady growth that it has.

Our popular educational campaign against tuberculosis has impressed upon the minds of the public certain measures necessary for the cure of this disease: fresh air, abundance of good food, rest and exercise. We question the wisdom of ever mentioning the benefits of "exercise" in our popular campaign. It is probable that improper exercise has caused more failures in the cure than any other factor, and therefore should not be advised in a popular educational campaign. Our interpretation of "abundance of good food" has markedly changed in the past few years. The value of "rest" has changed its position to the head of the list, but we make the suggestion that the "rest" and "fresh air" be linked with "comfort." What inconvenience and suffering has been endured in the name of "fresh air"! The time is coming when more attention is being paid to comfort while our patients are obtaining "fresh air" and "rest."

The shack type of buildings as commonly erected does not in itself permit of proper care of those patients whose condition is such as to require nursing or special treatment. As a means of "increasing the capacity" of an institution or providing that degree of privacy desired by some patients of means, the shack can with special care, be made to serve ambulant cases. The shack type of institution is expensive to maintain. Proper supervision over the patients is difficult, and if the shack is constructed because of its cheapness, the upkeep is high and deterioration is rapid. These bad features outweigh the good ones, with the exception of privacy offered, and in county sanatoriums that degree of privacy is not desired.

In order to supply comfort, economy of operation, the highest degree of supervision over patients and to avoid rapid deterioration or loss by fire, all Minnesota county sanatoriums are two-story fireproof structures.

The location selected for the typical county sanatorium is usually upon the south exposure of a sunny hillside, overlooking some one of Minnesota's many beautiful lakes or rivers. Such a site is chosen with a view to affording the most picturesque and cheerful outlook from the front or south side of the building, the hill in the rear at the same time offering protection from the cold north winter winds. As it is desirable to locate the sanatorium a few miles out of town, such conveniences as water supply, sewer, and often, electric current, are lacking, and must be provided for in the building. This isolation also makes it necessary to provide accommodations for the superintendent, nurses, servants, janitor, and engineer. A fully equipped laundry is likewise necessary, even in the smaller institutions. Where the size of the institution warrants the expense, separate buildings are maintained for the power plant and laundry, and also for the nurses' and servants' living quarters.

Fig. 1. A small sanatorium, typical of the plan adopted by the advisory commission of Minnesota county sanatoriums for the smaller institutions.

The buildings for the accommodation of patients are of fireproof construction, two stories in height. Centrally placed in the first story is a large recreation room, containing a spacious fireplace. The patients' dining room adjoins the recreation room, being separated from it by folding doors which can be swung back, uniting the two rooms when desired. The office is so

situated that it commands the entrance, and also gives supervision over the recreation room. Examination, drug and nurses' rooms are located near the office.

Between the patients' dining room and the kitchen is a scullery where the patients' dishes are washed and sterilized before being returned to the kitchen. This room contains a steam sterilizer in addition to the usual scrapping table, sink and electric dishwasher. A separate dining room for servants opens directly off the kitchen, as well as a storage pantry containing the large refrigerator, cooled by a refrigerating machine in the basement.

The patients' rooms naturally occupy the south side, or front, of the building, so as to give them

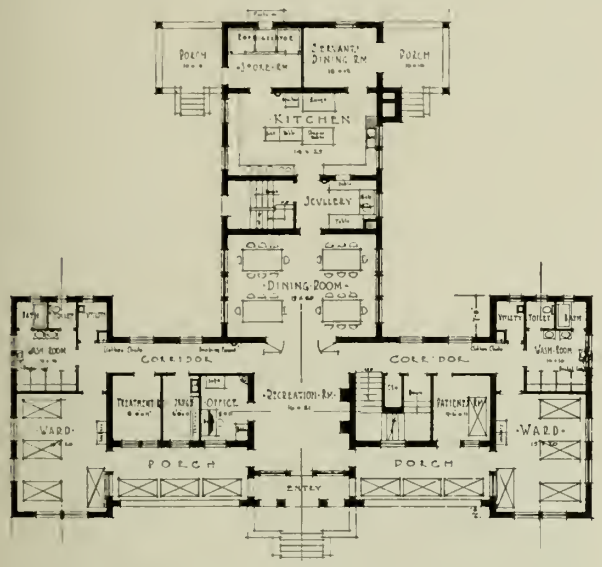

Fig. 2. First floor plan of the sanatorium shown in Fig. 1.

Fig. 3. Second floor plan of the sanatorium shown in Fig. 1.

the maximum of sunlight. The accessory rooms, such as diet kitchens, utility rooms, toilets and linen rooms are on the north side of the building, separated by the width of a corridor from the patients' rooms. The fresh-air treatment of tuberculosis makes it imperative that the patients' rooms have the greatest possible window area, so that the rooms may be made virtually porches. The windows are consequently divided into three sashes, so that when opened up, the sash occupies only one-third of the opening, instead of one-half, as is the case with the ordinary double-hung window. The windows are often arranged so that all the sash may be slid down into a pocket below the window sill, leaving the whole opening unobstructed. The patients' buildings are equipped with the standard signal system, so that a call from any patient's room lights a small signal lamp over the door to the room, and also registers at the nurses' desk on the floor on which the particular room is located. As a further precaution against unanswered calls, the call lights a signal lamp in the main office, and none of these signal lights is extinguished until the nurse answers the call at the patient's bedside. With the signal in the office, the nurse in charge has a check upon all calls, even though they be in some other building.

In detail, the keynote of the construction is simplicity, as in most hospital construction. The floors throughout are of terrazzo, with a coved base of the same material. The doors are of the flush type, without panels or mouldings, and the door frames are of metal, coming flush with the plaster and thereby doing away with the ordinary wood casings. All dust-catching surfaces are avoided as far as possible. Cupboards, diet kitchen refrigerators, etc., are recessed into the walls above the terrazzo base, so that the doors are on a line with the plaster wall. As far as possible, the kitchen equipment is of metal, and is built especially to fit the space assigned. In this way the efficiency of the service is increased while cleanliness is assured, since all equipment fits closely into corners which otherwise might become dirt pockets. Where it is necessary for equipment to rest on the floor, as is the case with kitchen furniture, high legs are provided so that no trouble is experienced in cleaning the floor under such equipment.

The medical service is conducted by physicians with years of special training in sanatorium work. Even in the small sanatorium of from 20 to 40 beds, this class of medical service is provided. It has been necessary, however, to place two institutions closely situated under the care of one physician, when the capacity of each is too small to require or warrant the "whole-time medical superintendent." In such instances the superintendent of each institution is a graduate nurse with previ-

ous sanatorium experience. The physician spends two or three days in each institution every week.

In conjunction with this work free tuberculosis dispensaries are maintained in the larger towns or cities of such counties as maintain sanatoriums. The sanatorium physician is in charge. The dispensaries are open one day each week and receive, for advice or for diagnosis, those patients or suspects who may be brought by the visiting

Fig. 4. Recreation room and dining room, showing type of interior finish adopted in the Minnesota county sanatoriums.

nurse, or who may be referred by the medical profession of the community or by others.

A strong effort is made to examine, through the dispensary, all children from those families where tuberculosis exists, or has in the past existed. While this rural dispensary work is only a few months old, a large number of children have been examined and many positive cases found. The parents of these children are advised to send them to the county sanatorium where special arrangements are possible for their care. We cannot but feel that too little attention is usually paid these children in rural districts. In the cities, of course, the children are seen by the school physician or nurses, and nurses from the health department and dispensary. The children in rural communities have escaped our attention.

A vast amount of educational work must be done to convince people in rural communities that the visiting nurse should be received and listened to, that the dispensary is "safe and sane" and that we advise special care and attention for the child, for the benefit of the child now and in the future and not to be contrary to the opinion of any local influence in the community.

With the education of the public in mind, every opportunity is made use of to present health facts before them, through the daily papers, different social organizations, churches, medical societies and journals. The trained sanatorium physician has a large share in the dissemination of health knowledge through public health talks and writings.

In the fall of 1913, one county sanatorium was receiving patients in this state, and one was partially constructed. At this time 9 institutions are receiving patients and 5 are under construction. These fourteen sanatoriums, as follows, serve the counties named: Sunnyrest Sanatorium at Crookston, Polk and Norman counties; Glen Lake Sanatorium at Hopkins, Hennepin county; Southwestern Minnesota Sanatorium at Worthington, Lincoln, Lyon, Murray, Pipestone, Cottonwood, Nobles, Jackson and Rock counties; Lake Julia Sanatorium at Puposky, Hubbard, Beltram and Koochiching counties; Buena Vista Sanatorium at Wabasha, Wabash county; Riverside Sanatorium at Granite Falls, Lac qui Parle, Chippewa, Renville and Yellow Medicine counties; Ottertail County Sanatorium at Battle Lake, Ottertail county; Mineral Springs Sanatorium at Cannon Falls, Goodhue county; Ramsey County Sanatorium at St. Paul, Ramsey county; Nopeming Sanatorium at Nopeming, St. Louis county; Sand Beach Sanatorium at Lake Park, Clay and

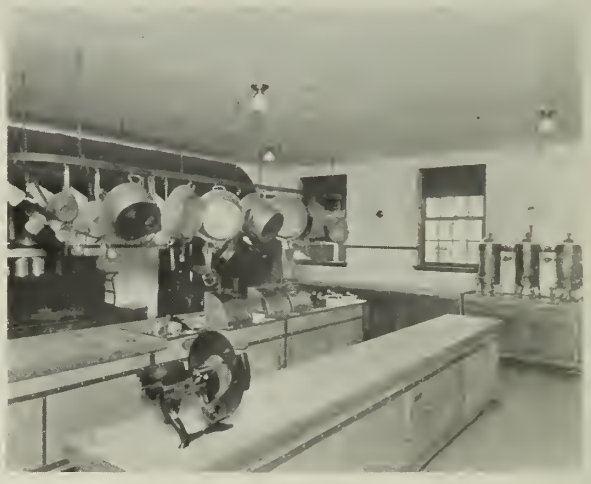

Fig. 5. Representative kitchen of a Minnesota county sanatorium.

Becker counties; Oakland Park Sanatorium at Thief River Falls, Roseau, Marshall and Pennington counties; the sanatorium at Deerwood, Crow Wing and Aitkin counties; the sanatorium at Wadena, Todd and Wadena counties.

These 14 sanatoriums will supply for a time the needs of 33 counties out of a total of 86 in the state. All will be enlarged in the near future, as has already been found necessary in four instances. Over 60 percent of the entire population of the state, upon the completion of the 14 sanatoriums, will have institutional provision for its tuberculous.

One-half the cost of construction and equipment has been paid out of state funds, the counties

paying the other half in 12 instances. In the two cases in which construction was completed or begun before the fall of 1913, $500 has been paid by the state to the county for each bed provided.

Towards the maintenance of all county sanatoriums the state pays $5 per week for each free case cared for. State aid is paid only after certain conditions as to construction, equipment and maintenance have been met. The standard of these county sanatoriums is of a high degree, seldom, if ever, found in the past in institutions of like character.

THE SMALL COMMUNITY HOSPITAL—INTERNS, NURSES, AND EMPLOYEES[1]

Principles Underlying Intern Service—How Interns May Be Secured—Their Work and Training—The Nursing Problem and How to Handle It—Other Hospital Workers

By JOHN ALLAN HORNSBY, M. D.

PAPER VIII

ONE of the most difficult administrative problems with which the superintendent of a small community hospital has to deal is that concerning the interns and nurses. So much depends on the adequate solving of this problem that it is entitled to more than passing consideration.

THE INTERNS

A great many trustees of small hospitals are under the impression that their respective hospitals are too small to justify the employment, at a salary, of an all-time young physician to act as resident medical officer of the institution. In large, well-conducted hospitals it is assumed from long experience and practice that one intern can take care of approximately 25 patients and do justice to them; in a small community hospital of, let us say, 50 beds, it may be possible to get along with the services of one resident physician or intern, because in such a hospital there are proportionately more private patients than in a large institution, and the attending physicians of these patients in a small hospital give more time and take a greater personal interest in them and do a good many things for them that are done by the interns in a large hospital.

But it seems inconceivable that any hospital could give adequate service to the sick without the continuous presence of a medical officer; it is not always possible to secure the attendance of a visiting physician in an emergency, and sometimes even a private patient might have to go for hours without medical attention which might be of the most urgent character. One of the reasons why patients go to a hospital is in order that they may have the advantage of the constant attendance, or at least the constant presence in the institution of a medical officer to meet complications that might come up. While it might be urged that usually one or another of the staff members is in the hospital during the greater part of the twenty-four hours, this cannot be considered adequate service, because physicians of private patients do not want other physicians who are in business competition with them in the community to meddle with their patients.

So, taking either horn of the dilemma, it is very necessary that there be someone in the hospital all day and all night, someone who has had medical training and whose official position will permit him, or even compel him, to give service in an emergency to any visiting physician's patient—and, obviously, to receive patients, to give advance orders for them on their admission, to perform the technical duties of discharge, to write orders for the laboratory, x-ray, and diet work, and to keep up the records of patients. One resident intern cannot hope to do all this work adequately and in consonance with modern hospital and medical demands for more than 25 patients; for any greater number than that there ought to be two interns, and for any fraction over 50 patients there ought to be three, and so on.

Let us see now how we are to obtain these interns. This is a very serious problem with small hospitals.

The Council on Medical Education of the American Medical Association, which we must all accept as the authority on the training of the interns, since there is no other, has undertaken to classify the hospitals of this country in so far as the training of interns is concerned, in connection with medical school work throughout the country. The council has in each state a committee, usually composed of three members, whose duty it is to investigate the hospitals of the state to determine whether they are equipped and administered in such a way that interns can obtain adequate medical and surgical training. These committees are confronted with a huge task, and the work has not been well done up to this time, but the intention is there and some progress has been made, and the committees have gone far enough so that their findings, on investigation of the hospitals,

[1] This is the eighth and last of a series of papers on the financing, planning, building, organization, and administration of "The Small Community Hospital."

have great weight with medical schools that are turning out these young physicians.

The practice now followed by a good many medical schools of giving a fifth or so-called "hospital year" is becoming more common all the time, and will undoubtedly be an invariable custom within a very few years. The work done some four or five years ago by Dr. Flexner under the auspices of the Council on Medical Education in the standardization of the medical schools of the country has served to eliminate nearly 50 percent of the schools that had been in existence up to that time, and has crippled many of the others, by showing up their inadequacy to give a proper medical education. Owing to these facts, and the further fact that the curricula for the remaining medical schools and their standards of admission have been so far advanced, not nearly so many young physicians are being turned out of the schools. In contrast with this, the hospitals have been growing so rapidly in numbers that at present there are not nearly enough young graduated physicians to go around, and the schools themselves and the young graduates can pick and choose the hospitals to which the latter want to go. Perhaps this phase of the case has had a greater influence in the elevation of standards in hospitals than any other one thing, because the schools and these state committees and the young medical men themselves are discriminating to an extreme degree in selecting hospitals for interns.

It has been urged, and there is some warrant for the contention, that a small hospital cannot give an intern the same good training that he can obtain in a large institution, for the two reasons (1) that the large hospital has available a more experienced medical staff for the teaching of interns, and (2) that the equipment and facilities in the large institution are greater than in the small hospital. But, on the other hand, these advantages can be in a great measure overcome by the more highly individualized attention that interns can get in the small hospital if the staff of that institution is composed of well-equipped practitioners who are capable of teaching, and if the administrative atmosphere is conducive to good service for the interns. Too often in small hospitals the intern is considered a necessary evil, and, under the influence of the principal of the training school, who is often also the superintendent of the institution, he is regarded as of far less consequence than the pupil nurses; often in some cases he is compelled to do orderly work for the nurses. Where this situation exists it is going to be difficult and, in the near future, impossible to obtain desirable intern service.

For these reasons hospital trustees ought to consider this intern problem very seriously, and it seems to me that the way out of it is to designate the intern by a title of more dignity. Perhaps if, instead of "intern," he could be called the "resident medical officer," and if the trustees and the staff would support the dignity of this title and compel the hospital employees to recognize it, it would help a good deal. Young men serving in hospitals cannot hope to make money, but they have a right to hope for an opportunity to acquire experience and skill. Moreover, every young man has a certain amount of professional vanity and pride, and a title means much to him.

Now, how are small hospitals to obtain their interns? Of course, it is far better for a resident medical officer to know the institution, the medical men, and the hospital environment, and if he can serve for several years it will mean much to the institution. One very good way, after the creation of conditions in the hospital that will permit him to acquire actual experience in the practice of medicine, is to appoint the intern under a definite contract, giving him for the first year a salary of, let us say, $25 per month, with an increase to $50 for the second year, $75 for the third year, and $100 for the fourth year. Most young medical men are poor, and they know perfectly well that when they go into private practice there will be a period when expenses must go on and when the income is small. If the young man is wise he will want to stay in a good hospital for three or four years, especially if he can save enough money during that time to enable him to begin his private practice in a decent and dignified way and with a feeling that he has a reserve fund to tide him over the early years. It may be urged that the small hospital cannot pay these salaries, but if the choice of the intern has been wise and if good use is to be made of his services he will have become so useful to the visiting medical men in the institution that his presence alone will serve to attract enough additional business, by way of private patients, to far more than meet the increased salary obligation.

It can easily be conceived that a good intern in a small hospital could give anesthetics, do the greater part of the pathological work, and perhaps do the x-ray work as well. Of course these extra duties are contemplated only in the event that the hospital is small and that the intern's time cannot be utilized to its full extent with the actual care of the sick on the wards.

The best way to go about getting such an intern is to take up the question with one or more of the medical schools. The success that will be met in this direction will depend largely upon the showing that the hospital can make as a good place in

which to train the intern. A good many small hospitals do secure their interns in this way, but it goes without saying that only the best medical schools should be consulted and that the interns should be drawn only from the best schools.

When a good intern is secured it should be the duty of all the members of the staff and all the visiting physicians to help train him, and it should be the duty of the superintendent of the hospital, the head of the training school, and everybody else in the institution to make a serious and constant attempt to help him in his training.

THE TRAINING SCHOOL

It is a question open to argument in many directions whether or not a small hospital should have a training school, with the alternative of employing only graduate nurses to do the nursing work. Again, the question comes up of the greater facilities and the broader training that a nurse can have in a large hospital than in a small, and the question again has two sides, precisely as the same question has two sides regarding the intern. There are many small hospitals that are turning out very excellent graduate nurses from their training schools. Some small hospitals in this country have turned out some of the best graduate nurses that we have; some of them are turning out graduate nurses who are making splendid hospital administrators. To my way of thinking, far more depends on personality in the training of a pupil nurse than on the equipment or facilities of the institution. The large hospital has better equipment, larger facilities, and is supposed to have a more experienced medical staff under whose training the pupil nurse can acquire a greater fund of information concerning her future work. But there are many small hospitals in which the balance is more than reduced by the high character of the medical men and their professional skill, and by the qualities of a superintendent, especially where the staff and the superintendent give individual attention to the pupil nurses and help them individually in their training.

A few states in the Union have laws forbidding the operation of a training school in a hospital smaller than a certain size; 25 beds is the number set by one state. It seems to me that the number of beds in a hospital is a poorer guide in such a matter as nurse training than the work done in the institution.

I have in mind one hospital, which is extremely moderate in its equipment, and on which not much money is spent by the community, but whose staff, superintendent, and head of the training school give such a thorough course of training to their pupil nurses that the graduates of this school are in constant demand even in competition with graduates of schools in the same neighborhood very many times larger and richer. While the activities of graduate nurses have vastly broadened in the last few years, extending into industrial work, visiting nursing and all the specialties, there still remains the fundamental field of private nursing to which most pupil nurses during their training aspire. It does happen that some of the larger, finer, and most extravagantly equipped hospitals confine the training of their pupil nurses to the nursing of patients under the conditions that prevail in that particular institution. Hence, when a graduate goes out into private practice she finds herself at sea in the average home, or if she goes into visiting nursing in the homes of the very poor she cannot accustom herself to the very plain and meager facilities of the home. Too often she throws up her hands in disgust at the absence of the things that she considers necessary for the care of her patient, instead of finding fault with her own training that she cannot make use of the things actually at hand. A nurse from a small, inadequately equipped hospital is much more likely to have been accustomed to making "something else do," and consequently will be at home wherever she finds herself in the presence of a sick bed.

Whatever the limitations of the hospital may be in regard to its equipment and facilities, there need be no such limitations in regard to the ability of the hospital people to carry out a proper curriculum for even their few nurses and to administer this curriculum under a rigid discipline.

If there is a proper loyalty on the part of the medical staff or the group of medical men practicing in the small hospital, there ought not to be any trouble about securing proper pupil nurse material for the training school. Medical men are always in close contact with the homes of the people, and education is too common nowadays for the young women residents of small communities to be deprived of proper educational facilities; indeed, there is hardly a community in this country —even a small community—that has not available excellent school facilities and a good proportion of well-educated young women. Too often the doctors themselves are to blame for the young women of the community going to large metropolitan hospitals for their training, and far too often the advice of the doctors that sends the young women away from home is based on their knowledge of the inadequacies in their home hospital.

So that it seems to me there is a very great responsibility resting upon the physicians who practice in the small hospitals in regard to the

nurses. The medical men ought to see to it that conditions in their home hospital are such that they can advise young women of their acquaintance or who belong to the families in which they practice to go to this hospital for their training. Far too often the inadequacies in the small hospital are due primarily to the medical men themselves; the moral tone in the hospital is set by the medical staff as a rule. If these men are ethical and their morals are good, if they are earnest and conscientious in their work and are exemplary in their habits, these virtues will be reflected in their hospital, and their hospital will be an attractive place for a young woman of culture, refinement, and education; she will want to go there and her parents will want her to go there. Low morals in a hospital are very rarely due to the character or qualities of the superintendent or the employees.

Another thing: if low standards of education and character are once admitted to the training school of even the smallest hospital, the training school in that hospital is doomed, while if the standards of character and the educational requirements are high and are strictly enforced, it will follow always that the training school will be a good one and that material for pupil nurses will not be wanting. It will not be profitable to go into the details of the conduct of the training school of the small hospital; that is going to be difficult always because of the lack of trained teachers, but very much can be done by the head of the school, even though she be a busy woman charged with the administration of the hospital as a whole, especially if she can engage the interest of the members of the medical staff, more particularly the younger men, and bring them up to a point where they will be willing to exert themselves, study the many good text-books on nurse training, and do their part of the teaching in a conscientious way.

For the other workers in the hospital very little need be said, because I addressed myself to a part of this subject in my last paper. Good hospital employees of the domestic class are hard to get; one superintendent of a small hospital, who had an excellent administration and a quite superior class of employees, told me not long since that she had had to employ an average of at least ten people for each place before she obtained one with whom she was satisfied. She told me that her method of keeping these people in the hospital was to pay them more than they could make elsewhere; she added, "I am getting along nicely and keeping my house cleaner, serving better meals, and giving an all-round better domestic service than the hospital formerly had, and I am doing it with one-half the people." This superintendent's payroll was smaller than it was before, but the wages to the individuals were much higher. There is a hint here for hospital superintendents and trustees.

Only one more word: one trouble-maker among the common help in a hospital can do more to disorganize the help and to keep things in a ferment than the best superintendent can possibly counteract. The only way to do when such a person is discovered is to get him or her out of the service instantly. A strict enforcement of discipline and a strict adherence to established rules is absolutely necessary in order both to keep good help and to maintain team-work and loyalty in the institution.

Perfect Cure an Impossibility

"In the matter of race betterment, we place too much faith in the doctor and in medicine," says Dr. J. N. Hurty, commissioner of health of Indiana. "We think that medicines can undo the wrongs that have been done the body. Of course they can do no such thing. They cannot renew or remake broken organs. The physician does not know so much as the people think he knows; he is not so skillful as the people think he is, and they rely upon him too much; they have too much faith in him. They think, 'Oh, I can overstep this little bound of right living this time, and I can go to the doctor and he will give me a paper and with that paper I will get a tablet and I can swallow the tablet and undo the indulgence.' A vicious circle it is in reality, and yet it exists almost everywhere. . . . I think the very best possible thing is to eradicate from man's mind the thought that he ever can experience perfect cure after disease or after injury to his body."

Fighting Tuberculosis in Michigan

The Michigan legislature of 1915-1916 authorized a tuberculosis survey of the state. During the first twelve months of this work (reported by Arnold Mulder in the *Journal of the Outdoor Life*), 38 of the 83 counties in the state were visited, and 11,528 persons were examined in free public clinics. Of this number about one-fourth (2,914) were diagnosed as "positive" cases, about one-fifth (2,231) as "suspicious," a few (404) as "arrested," and about one-half (5,924) as "negative." The state board of health nurses visited the homes of more than 3,000 persons whose cases were diagnosed as "positive" or "suspicious." The press, the pulpit, and the public schools were used to reach a still larger number of persons. The institution of open-air schools in some places, the appointment of visiting nurses in others, the establishment of a full-time health department in two cities, agitation for the erection of county sanatoriums in several counties, and, above all, the mobilization of the medical profession for a concerted fight on tuberculosis, are among the results reported.

The Lewis and Clark Sanatorium was opened at W. 2404 Second avenue, Spokane, Wash., in February, by Drs. N. L. DeLong and Lucy Maurer. Dr. DeLong is a graduate of medical colleges in Philadelphia, Pa., and Nauheim, Germany. Dr. Maurer received her medical education at Ann Arbor, Mich. The new institution will accommodate 35 patients.

NOPEMING HOSPITAL FOR TUBERCULOSIS AT DULUTH, MINN.

A County Hospital to Which State, County, and Citizens Contributed—Some Costs of Architecture and Maintenance—Some Ideals on Which the Administration Is Based

By ARTHUR T. LAIRD, M. D., Superintendent, and W. L. SULLIVAN, Architect

THE tuberculosis question is everywhere recognized as one of the most important of our health problems. The institutional care of as many patients as possible is now urged both for the patients' benefit and for the protection of the community. Most of the moderately advanced and far advanced cases must be cared for in hospitals near their homes if they are to receive any institutional care at all. If they are to be effective, such hospitals must not be allowed to degenerate into places of last resort for the vagrant and homeless, nor must they be considered as purely charitable institutions. The real foci of infection are in homes, and sanatoriums must appeal to wage-earners of the middle classes.

Children, who are more susceptible than adults, need protection most. Since compulsory segregation of any large proportion of the tuberculous citizens of a community is at present impracticable, it is necessary, in order to secure their presence in the sanatorium, to convince them that they will find there the best modern cure and treatment. The expense to the community of providing this will be far less than the cost of neglecting to do so.

Convalescents and arrested cases in a sanatorium are not to be considered as entirely helpless and hopeless invalids, but rather as crippled or handicapped citizens for whom special forms of occupation must be devised, as is now being done for discharged soldiers in Europe. In this way more complete recovery may be secured and economic waste lessened.

Some help in the planning of county tuberculosis institutions for advanced cases may be had from the study of semi-philanthropic private sanatoriums for advanced cases, but in the main the problem of the institutional care of advanced cases is a new problem.

These are the considerations which have influ-

Fig. 1. Nopeming Hospital for Tuberculosis. Panoramic view of infirmary, administration building, and children's cottage. Patients' cottage in the background.

Fig. 2. Nopeming Hospital for Tuberculosis. Ambulant patients' cottages.

Fig. 3. Nopeming Hospital for Tuberculosis. Sleeping porch of administration building. Note rubber-tired casters on beds.

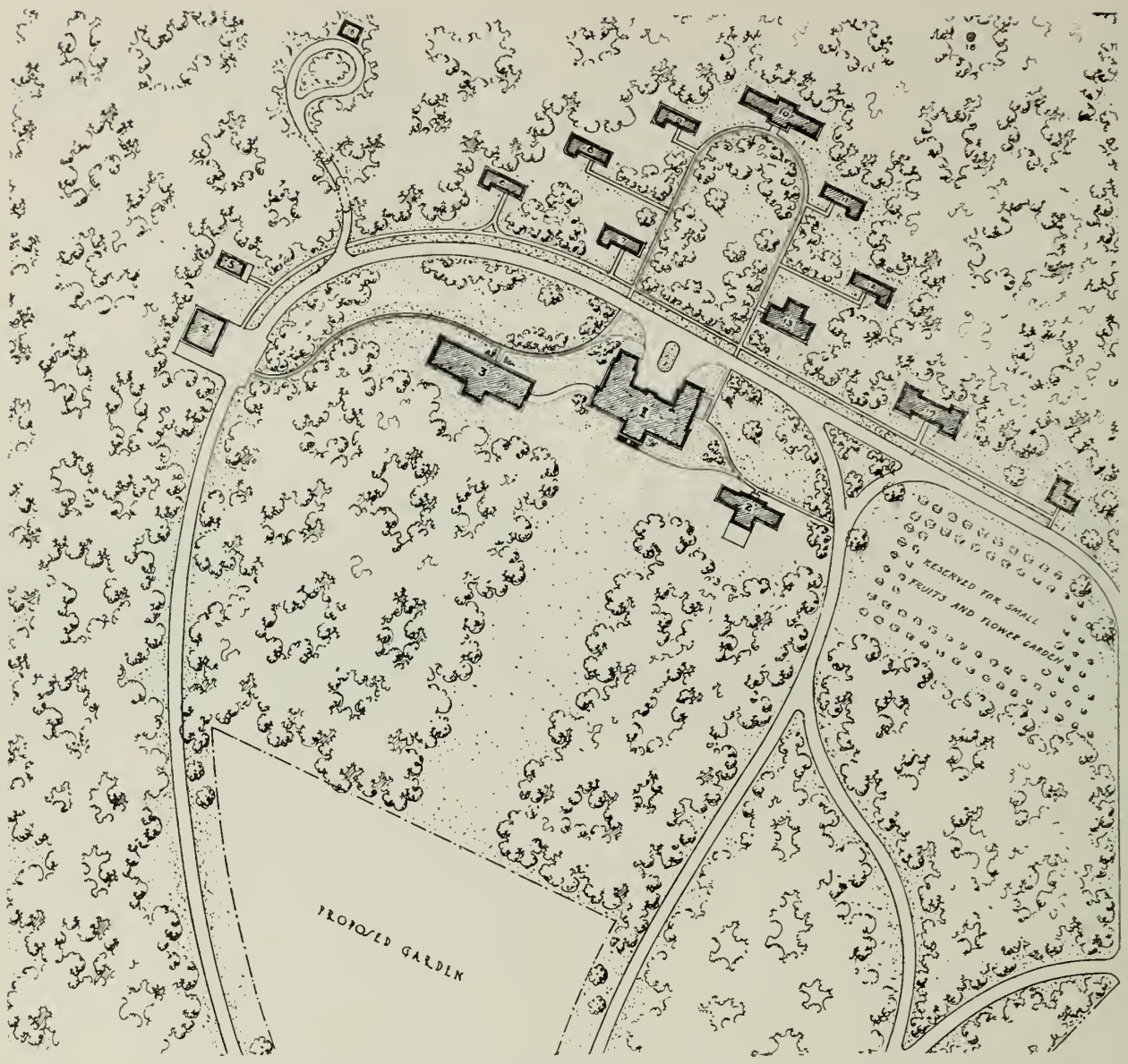

Fig. 4. Nopeming Hospital for Tuberculosis. General ground plan.

1. Administration building.
2. Children's cottage.
3. Infirmary.
4. Power house.
5. Engineer's cottage.
6-12. Patients' cottages.
13. Service building.
14. Nurses' cottage.
15. Superintendent's cottage.
16. Morgue.
17. Barn (not shown).
18. Water tank.

enced the St. Louis County Sanatorium Commission in its plans for Nopeming. As in many other enterprises for the public benefit, the citizens of this progressive county have given the undertaking characteristic and enthusiastic support. Since 1913 the help of the State Advisory Commission and substantial subsidies from the state have been available.

As soon as the commission was appointed by the County Board in 1909, its members began a thorough study of sanatoriums in other communities, visiting the principal ones in the eastern and central states, dividing the field between them. They chose for their secretary and first superintendent Dr. Wm. H. Hart, of the staff of Adirondack Cottage Sanatorium, Saranac Lake, N. Y., founded by Dr. E. L. Trudeau. Dr. Hart is now with the allies in France, being one of the first Canadians to volunteer. His good planning is responsible for some of the best features of the institution. On his arrival in Duluth he began a careful study of various possible sites, and finally one that is ideal in many ways was selected. Situated high on the north slope of the St. Louis Valley, 1,300 feet above the sea, well protected on the north by a rocky woodland, it affords a wide and alluring prospect over northern Minnesota and Wisconsin. Groves of evergreen and hardwood, containing some of the best trees still left in this region, make the Chippewa Indian name, "Nopeming"—"Out in the Woods"—especially appropriate. The site is near Duluth, but is readily accessible from the cities on the Iron Range by way of the Canadian Northern Railway.

In order that the first building might embody the best features of sanatoriums already established, a firm of architects, Scopes & Feustmann, that had special experience in this line of work, was employed. It was decided, as the sanatorium

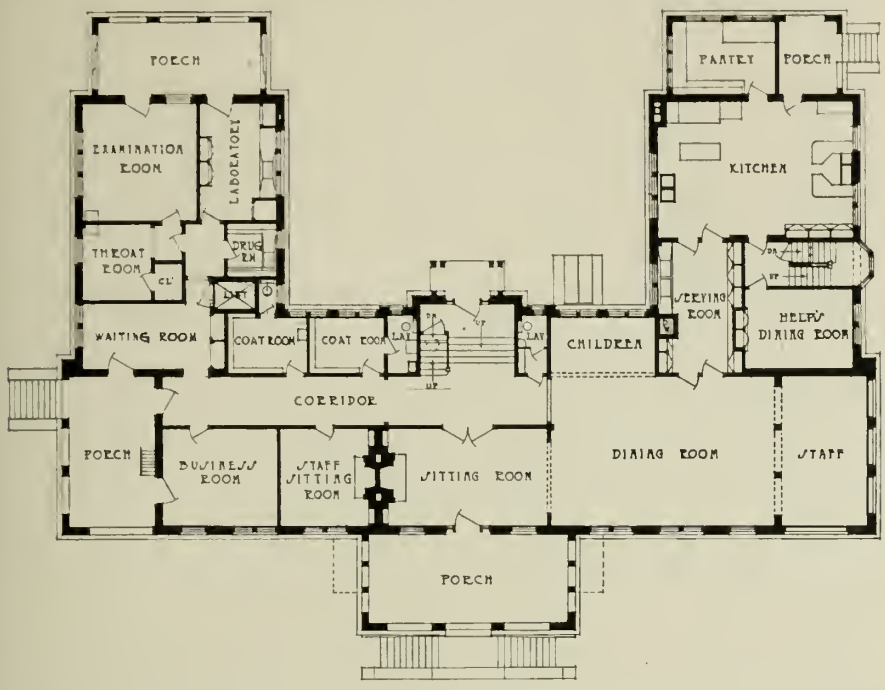

Fig. 5. Nopeming Hospital for Tuberculosis. Administration building. First floor plan.

was to be primarily for advanced cases, to provide, first of all, a well-constructed hospital building, furnished with modern conveniences and equipped with open-air sleeping porches. It was felt that it would not be wise to begin the work with leantos or shacks. Accordingly the present administration building was planned, and in it were included rooms and porches for bed patients. The construction is of wood, tile, and stucco.

The patients' rooms receive direct sunlight, and in nearly every instance open directly on a sleeping porch. There are no thresholds. The floor of the porch and room are on the same level, so that the patient may readily be rolled in and out. It will be noted from the plans that there are porches in large number and variety. On the second or patients' floor are five moderate-sized porches and two individual loggias; on the first floor, three large ones, that may be used as "liege halle" for ambulant patients, and on the third floor two sleeping porches for employees. The arrangement of offices, sitting rooms, dining rooms, and kitchen is shown on the plan. The kitchen is on the first floor, and has plenty of light and cross-ventilation. In the basement are various store rooms and a small laundry.

The urgent need of a hospital for tuberculous children was brought home about this time to some of the citizens of Duluth by the occurrence of several specially sad and distressing cases. Rather than wait for the public sentiment of the entire county to become aroused to the importance of the enterprise, the women of Duluth at once set about raising a fund of $10,000 and presented it to the county for the building of a children's cottage. This was completed and ready for occupancy in May of 1912, the time of opening the main sanatorium for patients. It accommodates twenty-five children, and contains four wards

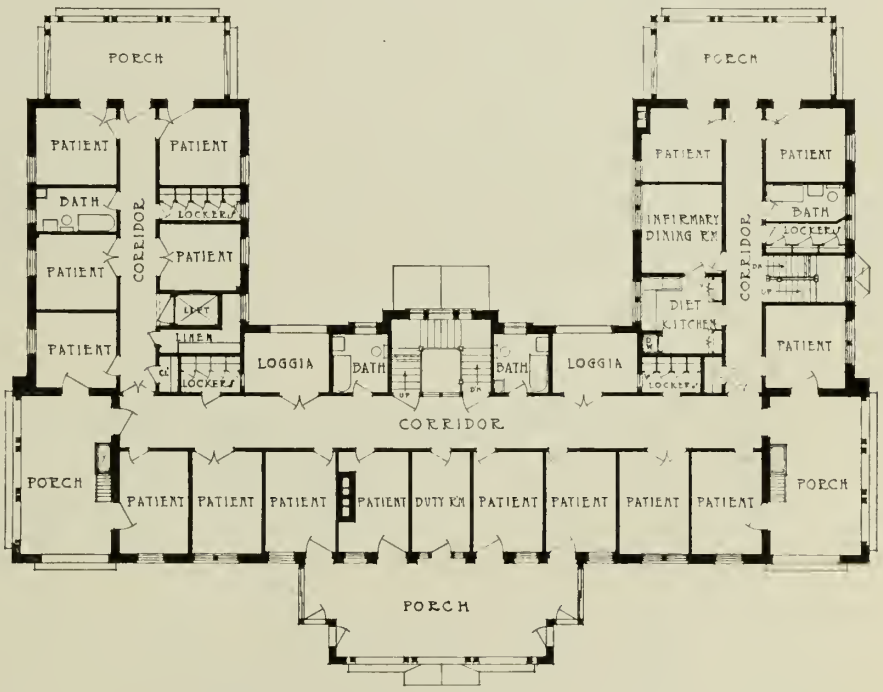

Fig. 6. Nopeming Hospital for Tuberculosis. Administration building. Second floor plan

with porches connected, an open-air school room, service rooms, and a third floor for isolation. It is of wood and stucco construction.

After the sanatorium had been in operation a year, and, with the aid of a small tent camp, was caring for between 60 and 70 patients, it was seen

that there was an urgent demand for more room for bed patients. This need the infirmary, the next building erected, was designed to meet. This infirmary is of strictly fireproof construction, being of concrete and hollow tile. It contains twenty large rooms for patients, each of which may be used by two persons as a dressing room or bed room. These rooms are nearly all directly connected with porches. It was intended that they should ordinarily be used by two patients, but that, if anyone was very ill, he should have a room to himself. The patients' rooms are all on the south side of the building, while the service rooms, diet kitchen, and bath rooms are on the north.

One of the pleasantest features of the infirmary is the arcade, which connects it with the main building, and the open deck or promenade on its roof. The covered corridor which forms the arcade is 13 feet wide, and has been found to be a most comfortable sleeping and lounging place for ambulant patients, who dress either in the infirmary or in the main building. Service tunnels connect the infirmary with the main building and with the boiler house.

Four cottages have been built during the past summer for afebrile patients who are able to walk some distance to their meals. These are similar to the cottages at the Edward Sanatorium, Naperville, Ill., and consist of a sitting room, dressing room, and a large sleeping room. While suitable for a comparatively small proportion of the patients in a county sanatorium, a few such buildings can be used to advantage. It has been found that the expense of connecting these cottages with the central heating plant and with the water and sewer mains has been nearly as great as the cost of the cottages themselves. Nursing of patients temporarily confined to bed in such cottages pending transfer to the infirmary is also inconvenient. Instead of building more cottages at the present time, the commission plans to connect the infirmary and boiler house with an arcade containing heated rooms and open porches for about 40 patients able to come to their meals, but not

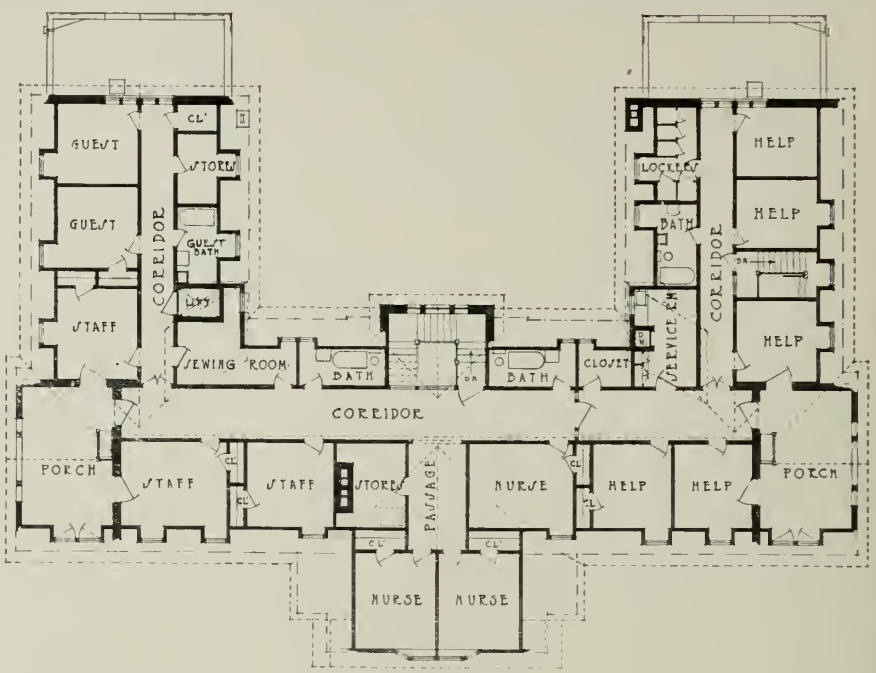

Fig. 7. Nopeming Hospital for Tuberculosis. Administration building. Third floor plan.

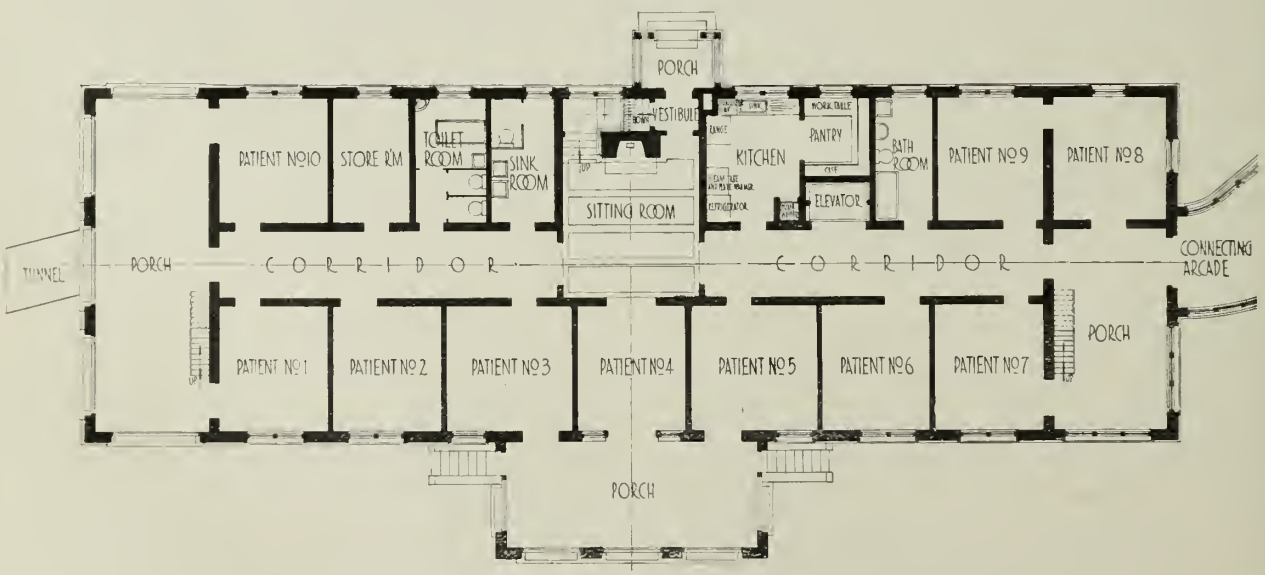

Fig. 8. Nopeming Hospital for Tuberculosis. Infirmary building. First floor plan.

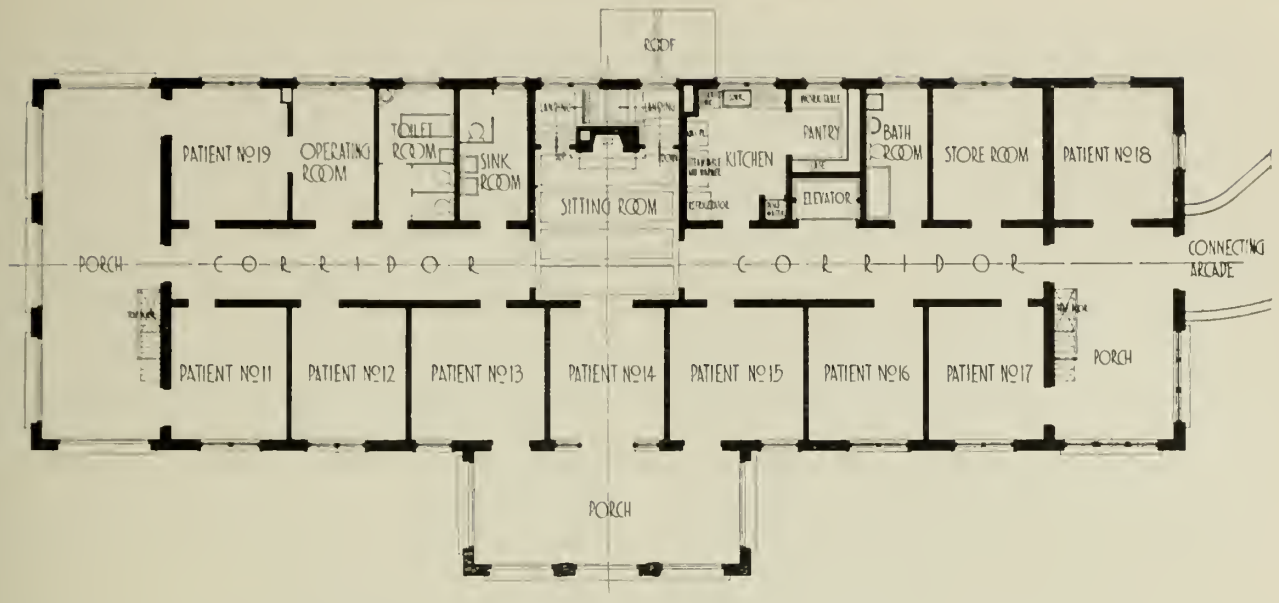

Fig. 9. Nopeming Hospital for Tuberculosis. Infirmary building. Second floor plan.

vigorous enough for a walk to the cottages in all kinds of weather. An inclosed corridor in the rear of the arcade will simplify matters of administration and service.

The tent camp located immediately in the front of the main building has been found to be a satisfactory means of providing sleeping quarters for a certain number of ambulant patients. It has been in operation for the past year, and is in use during the winter as well as in the summer; it is practicable, however, only on account of its close proximity to the dressing rooms and locker rooms in the adjacent building. The tent patients are in fact practically house patients, sleeping in extensions of the porches. In every hospital for advanced cases there will be a number of patients who can be taken care of to advantage in tent camp shacks or cottages suitably located, but for the majority hospital rooms or wards in permanent buildings must be provided.

The care of very advanced cases and of those who are improving in health in the same institution has been found to be entirely feasible. Every effort is taken to minimize the depressing effects of the deaths which inevitably occur, since none are refused admission, even if in extremis, while the presence in the institution of a considerable number who are getting well is a matter of encouragement to all.

Single rooms are provided for those who are very seriously ill. For those who are up and about, music and entertainments, reading, and instruction in handicrafts are provided. A family spirit is cultivated and an effort is made to make all feel at home. The highest rate charged is $7 a week. No distinction is made between free and pay patients. Up to the present time there has been no difficulty in keeping the institution full, and there is always a waiting list of considerable length.

The central heating plant is located 260 feet west of the infirmary, and is connected with the administration building by a concrete tunnel 6 feet wide and 8 feet high. All steam and water mains are in this tunnel. The heating plant was designed to furnish heat to all the buildings contemplated for the institution, and the boiler house has been planned so that additional stories may be added to it for laundry and electric light plant and sleeping quarters for male employees.

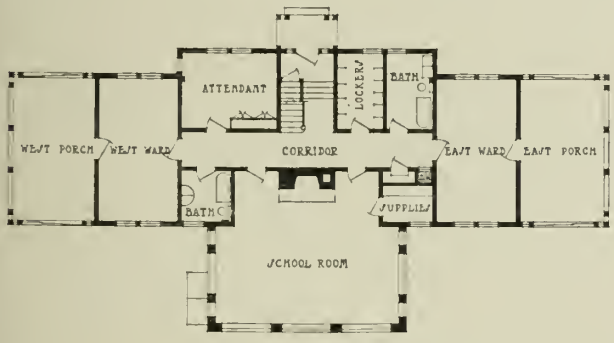

Fig. 10. Nopeming Hospital for Tuberculosis. Children's pavilion. First floor plan.

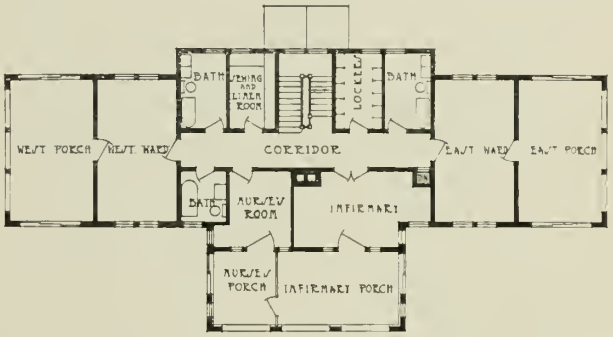

Fig. 11. Nopeming Hospital for Tuberculosis. Children's pavilion. Second floor plan.

The water supply is derived from two drilled wells, each over 200 feet deep. There are storage tanks on the hill back of the sanatorium, with a capacity of 60,000 gallons.

A patients' work shop and printing office provide occupations for patients allowed sufficient exercise. Here the minor repairs, and painting and printing for the institutions are done; arts and crafts are also taught. Many of the patients are now on the payroll of the institutions in various capacities as janitors, tray boys, clerks, etc. All who work more than four hours a day are allowed some remuneration. The work is under careful medical supervision, and is promptly discontinued if it seems to be doing harm.

A separate building, airy and sanitary in every way, to be used as a workshop or factory where

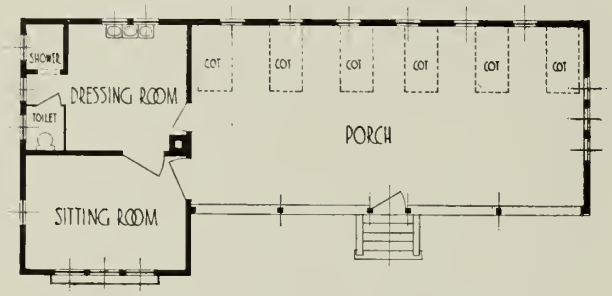

Fig. 12. Cottage shack for six patients.

ex-patients can be employed, is a future possibility.

A free clinic twice a week in Duluth, in cooperation with the city health department, provides opportunities for early diagnosis, and simplifies the matter of keeping in touch with discharged patients. It constitutes the social service department of the sanatorium.

The investment of the county and state in a plant of this sort is necessarily considerable, but is small when the financial loss caused by the disease is remembered.

The cost of buildings already in use has been as follows:

Administration building	$ 48,096.45
Children's cottage	12,060.32
Infirmary	37,953.75
Boiler house and heating equipment	24,354.87
Four patients' cottages	10,600.00
	$133,065.39

This does not include the cost of site, water supply, or sewage plant. The maintenance cost in 1915, excluding permanent equipment purchased, was $1.67 a day per patient. This amount was reduced by state and receipts to 99 cents a day per patient, the net cost to St. Louis county. The items on which this estimate is based will be gladly furnished on request.

The present capacity of the institution is 120 patients, and in another year about 200 will be accommodated.

The features of the institution to which special attention is called as desirable in a county sanatorium are: the centralization of the care of bed patients in buildings closely connected with the administration center; the provision of fresh air treatment for all cases, even the far advanced; the construction of buildings so that fresh air treatment can be carried out easily; the utilization of cottages and a tent camp for certain ambulant cases; special provision for the care of tuberculosis children from the opening of the institution; the provision of suitable occupation for convalescent patients.

ROUTINE MENTAL TESTS FOR DEFECTIVES

Necessity of Determining the Extent of the Psychopath Problem—Physical and Mental Examination of Candidates for Relief

A comprehensive program is outlined by Helen M. Wright in the *Boston Medical and Surgical Journal*. After making an exhaustive survey of the situation, she makes the following recommendations:

1. A way should be provided by which all social workers in training should be given instruction in the social and general signs of mental diseases. This instruction should include experience in work with psychopathic patients.

2. Social organizations of every type should keep an index, either by signal or card catalogue, of the insane, epileptic, feeble-minded and distinctly asocial persons enrolled.

3. There should be developed a central bureau of registration for persons included in the above four types.

4. All agencies dealing with unmarried mothers, delinquents and dependent children should establish as an essential routine a careful physical and mental examination of every individual under their care.

5. Agencies dealing with dependents who are not delinquents should establish as part of their necessary routine a system by which families or individuals dependent for more than two years, or families for whom an agency is planning to give considerable aid and supervision, shall be given a thorough physical and mental examination as early in the treatment as possible.

6. All children in the care of social agencies, whether normal or borderline, should be given mental examination upon admission and discharge, and if supervised for several years should be examined at intervals of from three to five years.

7. The existing psychiatric clinics and psychopathic hospitals should be enlarged and equipped to meet the increasing demands made upon them.

8. When these centers can no longer care for the patients, other psychological clinics and psychopathic hospitals should be supplied.

9. Should social agencies prefer to employ their own psychologists or alienists, these specialists should work together in such a way that their work would be standardized and the data be as nearly uniform as possible.

10. All psychological or mental examinations should include the Wassermann test for syphilis, as well as a physical examination and social history.

OLEOMARGARINE—A USEFUL AND ECONOMICAL SUBSTITUTE FOR BUTTER

Its Composition, the Process of Its Manufacture and Its Position in the Food World

By JOHN PHILLIPS STREET, Chemist Connecticut Agricultural Experiment Station, New Haven, Conn.

JUST before and after the Franco-Prussian War in 1870, the citizens of France, especially the poorer classes, suffered greatly from deprivation of food. Butter, an essential part of their diet, was unprocurable either because of its scarcity or its prohibitive price. Accordingly a French chemist, Megé-Mouries, devoted his attention to the working out of a method for making an artificial butter from beef fat, and in 1870 a patent was granted to him. Since that time oleomargarine, or margarine as it is called in Europe, has been an important factor in the world of food.

Megé-Mouries recognized the importance of a wholesome, nutritious and digestible fat in the human diet. He also realized that good butter because of its price was not always available to the poor, and that, therefore, a suitable substitute procurable at a low price would be a boon to the race. Today the people of the world are again confronted with an abnormally high price for butter, and the attention of all thoughtful housewives and dietitians should be directed towards a proper substitute, if such is to be had.

Certain questions naturally suggest themselves in this connection.

Is oleomargarine a clean, healthful, nutritious, digestible food?

How does it compare with butter as regards nutritive value and digestibility?

Why is oleomargarine a sort of pariah among food products?

Who is responsible for this condition?

An attempt to answer these questions will be made in the present paper.

MATERIALS USED IN THE MANUFACTURE OF OLEOMARGARINE

The best test of the cleanliness and purity of a food is found in a study of the raw materials used and the process by which it is made. While numerous patents have been granted since that of Megé-Mouries, the essential features of the process have shown but little change since 1870. Oleomargarine may be described as a mixture of animal fats and vegetable oils, sometimes colored by the addition of annatto, methyl orange or other coloring matter, sometimes made to resemble butter in color by a skilful mixture of oleo oils of varying shades. The animal fats generally used are oleo oil and neutral lard (the latter almost exclusively by American manufacturers), while among the vegetable oils cotton seed, sesame, peanut, cocoanut, sunflower and corn oils are most widely used. Milk or cream, and butter are also used in varying proportions, and a "starter", such as is commonly used in creameries, is also frequently employed.

The following recipes, taken from Lewkowitsch, illustrate typical oleo mixtures:

A general recipe is 65 parts of oleo oil, 20 parts of vegetable oils and 30 parts of milk; this will yield 100 parts of oleomargarine, 15 parts of water being eliminated during the manufacturing process.

FORMULAS OF THREE GRADES OF AMERICAN OLEOMARGARINE

High Grade		*Medium High Grade*	
Oleo oil	100	Oleo oil	315
Neutral lard	130	Neutral lard	500
Butter	95	Cream	280
Salt	32	Milk	280
Color	0.5	Salt	120
yielding about 352 parts		Color	1.5
		yielding from 1350 to 1380 parts.	

Cheap Grade

Oleo oil	495	Milk	255
Neutral lard	265	Salt	120
Cotton seed oil	315	Color	1.25
		yielding from 1265 to 1300 parts.	

For still lower grades corn oil is used in the United States. In Europe lard is little used; in England oleo is prepared exclusively from beef fat; on the continent mutton fat is used; and in Russia sunflower oil, or mixtures of this oil with cocoanut oil.

The object of the oleomargarine manufacturer being to render his product as closely similar to butter as possible, and to take away the tallowy or too strongly fatty taste of the material, butter is often added. Other manufacturers add small quantities of volatile acids, volatile aldehyds, mixed glycerids containing butyric acid, or "butter perfumes" which consist chiefly of volatile acids.

In some countries the mixing of oleo oil with butter is forbidden, but in the United States this is allowed provided the product is sold as oleomargarine. In Germany, Austria and Sweden the manufacturers are required to add at least 10 parts of sesame oil per 100 in order to facilitate the detection of oleo in butter. In Belgium 5 parts of sesame oil and 1 part of potato starch are required.

THE PROCESS OF MANUFACTURE

In brief, the process of manufacture is as follows:

The rough fat is removed from the slaughtered animals as quickly as possible, and sorted, the kidney fat being the most highly prized. This fat is then thoroughly cleansed with warm water and taken immediately to large, well-aired, artificially cooled rooms to harden, a result secured either by suspension in the cool rooms for several hours or by immersion in iced water. The hardened fat is then crushed, ground and thoroughly disintegrated, and at once introduced into melting kettles, kept at a temperature not exceeding 45° C. (at present in America a temperature of about 65° C. is used).

At this temperature only a portion of the fat separates from the tissues. The settling and clearing is assisted by sprinkling salt over the surface, and the melted fat, called "premier jus," is drawn off into shallow trays and cooled, the bulk of the stearin separating out in a crystalline form. This is then cut up into square pieces weighing about 3 pounds, wrapped in canvas and placed in hydraulic presses. For the highest grades the "premier jus" is remelted and allowed to settle out once more, so that the last traces of membrane and tissue are thrown down. The oleo oil which runs from the presses forms the chief raw material for the manufacture of eleomargarine.

This oleo oil is then mixed in churns with the vegetable oils and fats, and milk or cream, and a suitable "starter." Cottonseed oil and cottonseed stearin are the vegetable oils most commonly used, the quality used varying with the intended quality of the finished oleo. In any case, however, the cottonseed oil must be practically free from free fatty acids, and must be as free as possible from the peculiar flavor of that oil. Peanut oil, sesame oil and sometimes olive oil are used in Europe. The milk and cream used must be pasteurized, and if butter is used this also must be made from pasteurized products.

The purpose of the churning, besides the thorough mixing of the ingredients, is to destroy the tendency of the oleo to crystallize. The cooled oleo is run from the churn into cooling tanks, being met meanwhile by a current of icy water delivered under high pressure, which thoroughly pulverizes the oleo, so that after solidifying, the granules somewhat resemble those of butter. The solidified oleo is ladled out of the cooling tanks with long wooden spoons, is placed in wooden wagons to permit the draining off of the admixed water, and is then put into the kneading machines. In these machines the oleomargarine is thoroughly worked and the excessive water squeezed out, a homogeneous mass resulting. This is then salted to taste, mixed with a little coloring matter (if artificial color is used) and again thoroughly kneaded. It is finally molded into pats, rolls, or any desired form.

So much for the ingredients of oleomargarine and the process of manufacture. The animals supplying the fat are inspected by the government, the vegetable oils must be of high grade, the milk and cream must be pasteurized, and the butter used itself must be made from pasteurized material. It would seem that every safeguard had been thrown about the product to keep it sweet, clean and wholesome. In this respect it compares more than favorably with much of the butter on the American market, which is not inspected by the government, and which in many cases, as is well known, is not made from the best raw material and not always in a sanitary manner. Likewise the process of manufacture leaves little to be desired from the standpoint of cleanliness. In fact, perfect cleanliness is an absolute essential in the manufacture of a high-grade oleo.

THE NUTRITIVE VALUE AND DIGESTIBILITY OF OLEOMARGARINE

The average composition of a high-grade butter and a high-grade oleo is as follows:

	Butter	Oleo
Water	11.0	8.6
Protein	1.0	0.9
Fat	85.0	88.8
Ash, (chiefly salt)	3.0	1.7

Inasmuch as both butter and oleomargarine are essentially fatty foods, the ingredients other than fats are in a sense impurities. From the chemical point of view, therefore, oleo compares more than favorably with butter. It contains as a rule considerably less water than butter; in fact the average of 11 percent attributed above to butter is more than fair, as the present tendency of the butter-maker is to crowd the permitted limit of 16 percent water as closely as possible, with the result that today much of our butter contains nearer 15 than 11 percent of moisture. From the nature of things oleo cannot carry as much moisture as butter can, and oleo is therefore a somewhat more concentrated food.

The mere composition of a food, however, is of little importance unless the food in question is capable of digestion in the human body. While the number of experiments on the digestibility of oleomargarine are rather limited, careful tests made by Mayer, Rubner and Atwater have shown that from the digestibility standpoint about 102

parts of oleo are equivalent to 100 parts of butter, so that for all intents and purposes the two products may be considered as of essentially equal digestibility.

THE PRESENT STATUS OF OLEOMARGARINE

We have seen that oleomargarine is, and can be, made only from high-grade, wholesome raw material, that it is manufactured in a clean and sanitary manner, that it contains fully as much nutriment as butter and is almost as digestible; and yet in many quarters oleo is considered an interloper in the food world, and onerous restrictions are in existence affecting its manufacture and sale. What is the reason for this anomalous state of affairs?

Unfortunately the oleo manufacturers themselves are chiefly to blame for this condition. As the original purpose of its manufacture was to secure a cheap substitute for butter, and as every effort was made to simulate butter as closely as possible in texture, flavor, and color, the temptation to market the product as butter and at a butter price apparently was too strong for the manufacturers to resist. Accordingly oleomargarine, like certain other American products, began its career dishonestly in many quarters, and the stigma thus brought upon it still remains. Had the manufacturers only possessed sufficient vision to recognize its value as a food and sold it on its own merits, its history and status in the food world today would have been vastly different.

The abuses in connection with the sale of oleomargarine as butter and the adulteration of the latter with oleo led to restrictive legislation on the part of the nation and the states. The fact that it was a serious competitor with butter also doubtless was an important factor in such legislation. Inasmuch as a colored oleo was scarcely distinguishable from genuine butter by the ordinary observer, the government imposed, and still imposes, a special tax on the colored product. While the tax on uncolored oleo is but one-fourth of a cent per pound, on the colored article a tax of 10 cents per pound is levied, thus destroying one of oleo's chief advantages, its cheapness. What is a colored oleo? This is an interesting legal question that has frequently been before the courts. An oleo to which annatto or some other coloring matter has been added obviously is a colored product, but when the butter-like color has been secured by a skilful mixing of oleo oils of varying shades the problem becomes more intricate. In this connection we have the anomalous situation of the food authorities forbidding the use of any color in oleo except under almost prohibitive conditions, while at the same time permitting without declaration the use of similar color in a dairy product, butter. June butter, rightly or not, is the most highly prized butter because of its flavor and color. It therefore commands a higher price, but strange to say, the food authorities permit, almost directly encourage, the dairyman and creamery man to add color to his butter and thus sell "June" butter twelve months of the year. Granting that the initial purpose of such legislation was to combat the blatant frauds connected with the sale of oleomargarine, two wrongs do not make a right, and our present laws concerning oleo are discriminative legislation of the worst kind. The consumer for various reasons is prejudiced against the uncolored oleo, and by far the greater part of this uncolored and cheaper product is not sold directly to the ultimate consumer. As a result the colored product is the more popular in the retail trade, and instead of oleo being in reality the "poor man's butter" this same poor man must pay 10 cents extra per pound, simply that creamery butter, whatever its quality, may be protected.

Such a tax is unfair, the manufacturers recognize it as such, and the law is frequently evaded. The Commissioner of Internal Revenue reported that in 1915 four important cases were settled, in which colored oleo had borne the stamps of the uncolored product, the fraud on the government amounting to $17,692,410.47. It would appear, therefore, that the present statutes are a direct incentive to fraud. This of course in no way justifies the manufacturer in breaking the law, but apparently in spite of the law's restrictions its real purpose is but imperfectly effected, and the actual result of its enforcement is the discouragement of a perfectly legitimate industry, simply that the producers of butter, with their vast influence in our legislative halls, may continue to put before the public a product, good, bad or indifferent, manufactured in any way they please from any sort of material, and call it butter.

THE REMEDY

The remedy for this unfortunate state of affairs naturally rests with the manufacturer and the consumer. The manufacturer should realize that he has a high-grade food product, which is nutritious and digestible, and which he can afford to sell for a comparatively low price. He should push oleo as oleo, not as butter; he should discourage his salesmen from advising the retailer how to circumvent the law; and he should insist that these retailers sell oleo for what it is and not bring further discredit on its name.

The consumer, on the other hand, should abandon his foolish prejudice against uncolored oleo; he should remember that the color of neither oleo or butter, under present laws, is any index whatever of its quality; he should appreciate that oleo is as nutritious as butter and almost as digestible; he should realize that the raw materials and the process of manufacture used are vastly superior from a sanitary standpoint to those used with much of the product sold as creamery butter; he should encourage the use of the uncolored oleo (which he himself may color should he so desire) and thus pave the way to the repeal of the unjust 10-cent tax on the colored product; he should realize that there are grades of oleo just as there are grades of butter, that the oleos of highest grade are scarcely distinguishable in flavor and texture from high-grade butter; and that a good oleo is in every way preferable to a poor butter.

HOSPITAL FEES IN INDUSTRIAL ACCIDENT CASES

Rates Not Standardized in Most Localities—Schedules in a Few Places Which Have Adopted Standards

The rates paid by industrial corporations for hospital care of their employees, when injured in industrial accidents, vary greatly. In most localities, indeed, no attempt has been made to establish standards for these fees. In some places, however, the rates have been fixed either legally (as under the law for employees' compensation) or by voluntary agreement among the hospitals concerned. In Massachusetts the following fee schedule has been arranged by the State Industrial Accident Board:

Board per week (first two weeks)[1]	$15.00
Surgical dressing fee	5.00
X-ray examinations	5.00
X-ray examinations on hip, trunk, or head	10.00
Serums, drugs, or special appliances	at cost
Special nurses (day or night)	4.00
Ambulance calls within 3 miles	3.00
Ambulance calls, each additional mile	1.00
Emergency ward fee (overnight)	3.00
Emergency ward fee	1.00
Emergency ward dressing fee (if operation)	5.00
Out-patient emergency ward x-rays	5.00
Out-patient fee (each visit) first two weeks	1.00

The following rates have been adopted by the hospitals of Detroit as minimum fees for board and care in industrial accident cases under the Michigan state compensation law:

Bed, board, and general nursing (minimum charge $5), per day	$ 2.00
Operating room fee for each operation, large cast, etc	5.00
X-ray examinations (including a second confirmatory examination)	10.00
Secondary surgical dressings	$1.00 to 2.00
Ambulance service, first mile, $2.00; each additional mile	1.00
Special graduate nursing, including board of nurse, per day	4.75
Laboratory examinations (seldom needed in accident or surgical cases)	$2.00 to 10.00
Special drugs, serums, vaccines, mineral waters, and liquors	at cost

The foregoing items, except those for bed, board, and nursing care, are based on the fees current in Detroit at present.

The following rules were adopted by the Industrial Commission of Ohio under the workmen's compensation act:

1. Our rate for hospital service per day is $2.15 for private rooms, or a rate of $15 per week. If the injured party is confined to a ward, the usual ward rate of $1 to $1.50 per day, or $7 to $10.50 per week, is allowed.

2. The service of interns or externs is understood as belonging to the hospital. No fees are allowed for their service.

3. A fee is allowed to the hospital for dressings in cases not confined to the hospital, but which come into the hospital for medical aid. A first-aid fee in such cases will be allowed any physician rendering service, not employed by the hospital in the capacity of intern or extern, provided attending physician's report is filed with the commission.

4. Unnecessary or prolonged hospital fees for room, board, nurse, and general attendance will not be granted.

* * * * * * * * * *

7. A fee of $5 is allowed for the use of the operating room in major operations, a fee of $3 in minor operations for the use of the emergency room. A fee of $5 will be allowed for anesthesia when administered by a regular physician not connected with the hospital in the capacity of intern or extern or employed by the hospital direct. Otherwise the fee for anesthesia is covered by the operation room fee.

8. The services of a special nurse, when shown to be absolutely necessary and ordered by the attending physician, shall be allowed. When such service is rendered by a graduate or trained nurse, a maximum charge per day, not to exceed $4 a day, meaning 12 hours' service, will be allowed.

Philadelphia hospitals have adopted the following fee schedule for the treatment and care of industrial accident cases under the Pennsylvania compensation act:

HOUSE CASES

Bed, board, and general nursing (minimum charge, $5), per day	$ 2.00
Operating room fee	5.00
Ambulance service	no charge
Laboratory examinations (not often needed)	$2.00 to 5.00
Special drugs, serums, vaccines	at cost

RECEIVING WARD AND DISPENSARY CASES

First dressing	$ 1.00
Subsequent dressings	1.00
Anesthetics	3.00

OTHER FEES

Minor operations	$ 2.00 to $ 5.00
Major operations	25.00 to 50.00
X-ray examinations	3.00 to 10.00
Reducings and dressings—fractures	5.00 to 15.00
Reducings and dressings—dislocations	3.00 to 10.00
Written report at any time as to condition of patient	no charge
Special examination and full report	3.00 to 5.00

[1]After two weeks, except in unusual cases, further board must be paid by patients and not by insurance companies.

Strictly Germ Proof

The Antiseptic Baby and the Prophylactic Pup
Were playing in the garden when the Bunny gambolled up;
They looked upon the Creature with a loathing undisguised;
It wasn't Disinfected, and it wasn't Sterilized.
They said it was a Microbe, and a Hotbed of Disease;
They steamed it in a vapor of a thousand-odd degrees;
They froze it in a freezer that was cold as Banished Hope,
And washed it in permanganate with carbolated soap.
In sulphureted hydrogen they steeped its wiggly ears,
They trimmed its frisky whiskers with a pair of hard-boiled shears;
They donned their rubber mittens and they took it by the hand,
And 'lected it a member of the Fumigated Band.
There's not a Micrococcus in the garden where they play;
They bathe in pure iodoform a dozen times a day;
And each imbibes his rations from a Hygienic Cup—
The Bunny and the Baby and the Prophylactic Pup.

—Arthur Guiterman, in the "Laughing Muse."

NEW TYPE OF LIMOUSINE AMBULANCE

Radical Departure from Standard Style, in Door Opening at Side. Designed by Thomas McGann, Chauffeur, for the Massachusetts Homeopathic Hospital

This ambulance has proved extremely satisfactory under working conditions, and, though not equipped with shock absorbers, rides very easily, due to the position of stretcher-carriage, which is carried practically midway between front and rear springs. The ambulance is not required to back up to curb, and, owing to withdrawal of stretcher-carriage, can be loaded and unloaded with great facility.

The rear compartment is carried forward to the right of the driver's seat, and protected from draft when the wind-

Fig. 1. McGann hospital ambulance. Designed for the Massachusetts Homeopathic Hospital.

shield is opened by a longitudinal partition separating it from the driver's seat and a cross partition about 12 inches back of the wind-shield. Drop sash back of driver and in cross partition provides for ventilation. The chassis is a standard Cadillac "eight," with 145-inch wheelbase, and the body was built by Terrill Brothers, of Rahway, N. J., in accordance with the hospital's designs and specifications.

Fig. 1 shows the exterior appearance of the car (note small overhang and symmetry). Fig. 2 shows the left or

Fig. 2. McGann hospital ambulance. Divided as limousine.

driver's side (note driver's seat in vestibule and disappearing seat at the left of rear compartment). The emergency stretcher suspended from the roof is supported by sockets carried on partition in the rear of driver's seat and the rear seat. Fig. 3 is a right interior view (note wide door opening and position of stretcher-carriage so far forward as to provide ample leg room between stretcher and rear seat). The stretcher-carriage is supported by legs at the forward end, and the pivoted arm is supported on the floor of the car at the rear door joint. Fig. 4 shows the stretcher-carriage swung out at somewhat less than right angles with the car and supported

Fig. 3. McGann hospital ambulance. Opened up for one patient and relative.

Fig. 4. McGann hospital ambulance. Opened up for one patient.

by the pivoted arm and extension legs. The equipment of the ambulance includes lockers under the rear seat and to the right of driver, electric lights, electric gong, blanket rail, and exhaust heater.

WANT MUNICIPAL HOSPITAL LAW

Northwestern Nebraska Medical Society Petitions Legislature for County Hospital Legislation

A resolution recently passed by the Northwestern Nebraska Medical Society sets forth the advantages to the public, in the way of savings and more efficient service, from the establishment of small, well-equipped hospitals, opened to all recognized practitioners, in villages or cities of the second class. The society therefore petitioned the governor-elect, lieutenant governor-elect, and legislature of the state to enact a measure enabling any village or city of the second class in Nebraska to vote bonds to an amount not exceeding 10 percent of the assessed valuation of the purchase or erection of such a hospital, and to levy a tax of not more than 20 mills on the dollar per annum for its maintenance. The proposed measure is modeled on the Iowa county hospital law, except that it enables municipalities instead of counties to erect and operate hospitals.

The Waynesville Hospital Association, a new corporation at Waynesville, N. C., has purchased in that city a large residence property, which it will fit up for hospital purposes.

The
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Contributors, subscribers, and readers will find important information on advertising page 34.

Minnesota's Work in Tuberculosis

We are publishing elsewhere in this issue two articles on Minnesota's county tuberculosis sanatoriums, and the remarkable record which that progressive state is making in the fight against tuberculosis. Right here we should like to remind our readers of a few of the things which have been achieved out on the prairies of the Northwest.

1. Minnesota has provided institutional care for a larger proportion of her tuberculous population than any other state in the Union. She has not merely provided this care; she has brought it to the doors of her citizens. Realizing that sanatoriums can accomplish nothing unless patients can be induced to enter them, and that separation from the patients' families is generally the greatest deterrent, Minnesota has devised and put into operation a system of county hospitals. Over 60 percent of the population of the state thus has sanatorium facilities within easy reach, and we have no doubt that provision will be made in the near future for the remaining 40 percent.

2. In construction, equipment and management, these county tuberculosis hospitals have been kept on a uniformly high plane. All buildings must conform to the standards set by the state advisory commission, as explained in Dr. Bosworth's article. Each sanatorium is equipped with all the most modern appliances, whether for treatment or for sanitation. The administration has not been allowed to fall a prey to politics. The medical superintendents are not broken-down hacks or failures who happen to have friends or relations in political power; they are tuberculosis experts who stand high in the profession, and are employed on full time.

3. Minnesota realizes not only the importance of sanatoriums, but also their limitations. She appreciates the necessity of checking the disease before the patient arrives at the sanatorium stage. The state has, therefore, instituted a rural dispensary service, and has supplemented this by the work of visiting nurses. The need, too, of providing tuberculous patients with work, so that they may be partially or fully self-supporting, has not been overlooked; this problem is being worked out with success in certain sanatoriums.

4. Above all, Minnesota has had the wisdom to confide the oversight of her county sanatoriums to alert, progressive and most enthusiastic specialists in the treatment of tuberculosis. Every county sanatorium in the state is inspected at frequent intervals by some representative of the state advisory commission, in order to avoid deterioration of the service to the level of a county poor-farm. Probably there are no state institutions in the country which are so frequently or so thoroughly inspected.

We know that those who are interested in anti-tuberculosis work will wish to keep an eye on what Minnesota is doing. We are, therefore, glad to be able to promise a number of articles on the sanatoriums of Minnesota and the work that is being done there.

Hospitals and Group Diagnosis

The hospital is not merely an aseptic building in which sick persons may be deposited and cared for. It has not discharged its full duty to the community when it has lavished care on the patients within its walls. The hospital, if it be true to its highest ideals, owes to the profession the duty of leadership and to the community an intelligent consideration of the general problems of disease and suffering. Two suggestive recent articles represent attempts to correlate the hospital with one of these larger community problems.

Dr. M. Schulmann[1] suggests that the needs of the middle class, who cannot afford expensive specialists like the rich, and who cannot accept the charitable service provided for the poor, might be met by a paid group service, offered for moderate fees. Such service might be rendered either

[1]Schulmann, M.; New York Med. Rec., 1916, CV, No. 3; abstr. in THE MODERN HOSPITAL, Curr. Hosp. Lit., this issue.

by hospitals or by private groups, but the hospital would have the advantage of superior facilities and greater prestige. An important and interesting experiment in this direction is described by Dr. Fayette Watt Birtch,[1] of San Francisco, in a recent number of the *Interstate Medical Journal.*

Twelve members of the staff of St. Luke's Hospital, interested in various fields of medicine, have organized for team-work on different cases referred to them by general practitioners. Each member of the team makes an independent examination and a written report. Then the team meets for comparison and discussion of the findings, the patient's own physician being invited to be present at the meeting. If an agreement is reached, the findings and recommendations for treatment are turned over to the patient's physician; but if anything remains in doubt, the case is remanded for further investigation. This method, by which each patient receives an examination from all the specialists as a routine procedure, is to be distinguished from the plan adopted in certain other centers well known for their methods of group diagnosis, by which the patient is first examined by a general clinician, and by him referred only to such specialists as he may think best. The charge for this service is graduated according to the patient's ability to pay, the rate being $35 for each $100 monthly income. Thus the patient, though he obtains service of a character far above anything that would otherwise come within his means, is not made an object of charity. Nor is the private practitioner made the subject of unfair competition; the case is never taken out of his hands, and the hospital group, so far from competing with him, merely puts at his service their facilities for diagnosis.

Another interesting experiment in group diagnosis will be afforded, provided the plan is put into operation, by the proposed diagnosis stations of the Chicago Municipal Tuberculosis Sanitarium, described elsewhere in this issue. The service at these stations is to be rendered to the patient free, but only through his own physician, and therefore it cannot tend to undermine his position, particularly as the physicians at the diagnostic stations are to be, as far as possible, full-time, salaried men, without temptations or opportunities to engage in competitive private practice.

It is too early as yet to decide what method will prove to be the most successful in meeting the undoubted need of the public for skilled service at moderate cost; but it is encouraging to see that real efforts are being made to meet it.

[1]Birtch, F. W.; Interstate Med. Jour., 1916, XXIV, No. 1; abstr. in THE MODERN HOSPITAL, Curr. Hosp. Lit., this issue.

The Tuberculosis Problem, Ever Changing Yet Ever the Same

We present this month some interesting material on the ever-pressing tuberculosis problem. Minnesota, a state that has been making a remarkable record in the antituberculosis campaign during the past four years, is represented by two articles, one, on the Minnesota County Tuberculosis sanatorium system, by Dr. Robinson Bosworth and Messrs. Sund & Dunham, and the other, on one of these county sanatoriums (Nopeming Hospital), by Dr. Arthur T. Laird and Mr. W. L. Sullivan. In connection with the campaign in New York we have some news notes and two articles, one on home care and employment of the tuberculous, by Mr. Edward Hochhauser, of the Committee for the Care of the Jewish Tuberculous, and the other on the "preventorium" in New Jersey for New York children who have been exposed to tuberculosis. From Chicago comes an article on a most interesting municipal experiment—a projected clinic which embodies several unique features and by means of which group diagnosis will be brought within the reach of the average practitioner and his middle-class or poorer patients. In addition, the Current Hospital Literature department contains abstracts of several thought-provoking articles on sanatorium, dispensary, class, and home treatment of tuberculosis.

This material, coming as it does from widely separated sources, naturally represents several very different points of view. Two or three collective impressions, however, emerge from the mass. One is the apparent contradiction between the growing strength of the tuberculosis sanatorium movement and what looks at first glance like a movement away from reliance on the sanatorium. See, for instance, the articles by Russell[1] and Pratt,[2] who contrast sanatoriums with dispensary or class treatment, to the advantage of the latter. The contradiction, after all, is such merely in appearance. We are only waking up to the need for sanatoriums. At the same time, we are only waking up to the fact that the sanatorium does not, in and by itself, solve the tuberculosis problem, and that we shall accomplish very little through our sanatoriums unless at the same time we study closely the needs of the patient who has not reached the sanatorium stage, and of the one who has been discharged from the sanatorium. We must on the one hand make every effort to arrest tuberculosis in its incipiency—to keep the early case from needing sanatorium care. On the

[1]Russell, J. F.; Med. Rec., New York, 1917, XCI, No. 3; abstr. in THE MODERN HOSPITAL, Curr. Hosp. Lit., this issue.

[2]Pratt, J. H.; Boston Med. and Surg. Jour., 1917, CLXXVI, No. 1; abstr. in THE MODERN HOSPITAL, Curr. Hosp. Lit., this issue.

other, we must realize that we have not finished our task when we have tossed an "improved" patient overboard, to sink or swim. As a patient who has gone through this ordeal suggests,[1] we really cannot afford to go to the trouble and expense of saving his life by sanatorium treatment, only to throw the result away by our indifference to what happens to the same patient outside the sanatorium gates. Apparently one of the strong points of the class and dispensary method of treatment is that it teaches the patient to live as he should in his normal surroundings, not merely in the temporary shelter of a specially prepared environment. This, of course, is not to deny the value and necessity of sanatorium treatment in certain cases, both for the sake of the patient and for the protection of his family and the community. As indicated above, we must have sanatoriums, and we must realize that sanatoriums alone cannot accomplish everything.

The Front Door Superintendent

Hospital superintendents tend just as much to lean toward certain specialties in their administration as do other professional people. There is the superintendent who pays special attention to the financial operations and the buying of supplies for his institution; he prides himself on his skill in buying and in the use of hospital commodities, and the trustees and medical staff and supporters of the hospital recognize these special abilities in their superintendent.

There is another class whose exponents give special attention to the medical side of the hospital's activities, keep thoroughly informed as to the needs and activities of the medical staff, and take great pride in seeing that the medical men and their patients have the necessary things.

There is yet another class whose members give particular attention to the nursing welfare of the hospital. This class is made up mostly of women who have been trained as nurses before beginning their executive careers.

There is still another superintendent who might correctly be termed the "front door superintendent;" and we sometimes feel that this superintendent will be kept in closer intimacy with his hospital than any of the others. The front door superintendent has his office close by the public entrance of the hospital, possibly adjoining the coat room or consultation room of the doctors and near the reception rooms for visitors; he spends a good deal of his time in the business office, looking over records of patients to see that they are kept up correctly, as they are returned to the office after the discharge of patients. He is to be met in the front halls; he sees the doctors as they come in and as they go out; he has an intimate handshaking acquaintance with very many visitors to the hospital.

To such a superintendent as this it is common for the doctors to bring their troubles—to tell of the little slips in technic, in courtesy, and in attention to patients, visitors, and the doctors themselves that occur upstairs. Visitors coming to see patients or leaving again tell him what is happening to their sick relatives or friends.

In this way the superintendent is enabled to keep a check on the intern service as viewed by the doctors, the nursing of patients, and on almost all the other activities concerning the "upstairs" part of the house. He will obtain information that he could not possibly get on his daily rounds, and he will obtain many a hint and clew to shortcomings in administration and for betterment in the hospital service.

The front door superintendent has his finger on the very pulse of the institution—not that he must stay at the front door all the time, but it is a mighty good place to be during the morning hours when the doctors are coming and going, and during the visiting hours.

The Autocrat of the Staff

Recently there was an upheaval in one of the large eastern hospitals. The chief of the surgical staff, who had been the surgical autocrat for many years, declined a reappointment because four younger surgeons were put on the staff without his consent.

The professional opinion, reflected in the public press, was that there was a "medical ring" in the hospital. The rules provided that patients who could not pay for a private room, minimum charge $25 per week, went to "the service" and out of the hands of the men sending them in. The younger men said this was discrimination against them because their patients could not pay such large charges, hence they were deprived of the privileges of the hospital. The authorities of the hospital sided with the younger men, and, while the chief surgeon was reappointed, his autocracy and monopoly were taken away. He declined the appointment, as has been said, on the ground that, since he could no longer control the service, he could not conscientiously serve.

The name of the hospital in this case is of no consequence, but the condition of affairs which has just terminated in it is so common in hospitals in this country that the case is worthy of more than passing notice. Hospital superintend-

[1] Vogel, L. C.; Jour. Outdoor Life, 1917, XIV, No. 1; abstr. in THE MODERN HOSPITAL, Curr. Hosp. Lit., this issue.

ents can read between the lines in this case, and fully appreciate just what was going on there. One of the trustees, commenting on the refusal of the chief surgeon to serve under the new conditions, said: "We will lose a good many patients at first, but we think that opening the hospital to a larger number of virile young men will soon overcome this."

How many hospitals in this country are overawed and domineered over by the chiefs of their respective surgical staffs, and afraid to break this autocratic and ruinous rule for fear of losing the surgeon's private patients? Don't the hospitals know that in each case the surgeon needs the hospital far more than the hospital needs him? Don't the hospitals know that if they dethrone their autocrats, the new men, younger, more active, better schooled, and with more scientific training, lacking only experience, will forge ahead, and take the hospital ahead with them?

Have courage, hospitals, and dethrone your autocrats.

Politics in a State Hospital

The State Hospital for Nervous Diseases at Little Rock, Ark., has been for two or three years without a permanent superintendent. Some excellent, experienced, and highly trained men have been there, but each, in turn, has been forced out by politics.

Recently Dr. M. B. Heyman, of the Central Islip State Hospital, of New York, was offered the superintendency, but, after serious consideration, he declined, giving as his reason that politics in the management of the institution would make any superintendent's tenure insecure, and that no one, however conscientious, could institute the much needed changes under such conditions. The job is going begging, although it is an opportunity that alienists and state hospital administrators would reflect on a long time before refusing.

How long are the people of this country going to permit peanut politics and graft to manipulate their eleemosynary institutions? And what are the people going to do about it?

"Meat" From an Annual Report

The following paragraph, taken from the fourth annual report of the San Francisco Hospital for Children, so completely meets our idea of how an annual report should be made up that we feel like calling attention to it as prominently as possible:

On another occasion Houdini the Magician generously gave an hour of his time to entertain the little patients with his marvelous tricks. A day long to be remembered was that of K. C. B.'s day at the Exposition, when thirty of the little people in automobiles joined the parade on Van Ness avenue to have their first view of the wonderful Exposition. It was the fifth anniversary of little Bobby's entrance into the hospital, a long time to be "shut in," and his excitement and delight were unbounded. It was a long, beautiful day, but no one complained of being tired and no one was the worse for the excitement. This was followed by the visit of the Seattle Police Band, brought out by the children's friend, K. C. B. Hearing a little wish expressed that the children in the hospital might have another day at the Exposition, a generous friend more than gratified the modest wish by sending a check for $1,000 to Mrs. George Cameron, president of the "Auxiliary," and by reason of this most generous gift many of the children had the great pleasure of many visits. Automobiles carried them, in charge of nurses, to the Fillmore street entrance, where they were met with wheel chairs and taken wherever they expressed a wish to go. The wheel chair men were most kind and thoughtful, explaining the exhibits and doing everything in their power to add to the happiness of the children. No greater pleasure and none more instructive could have been given them, and they enjoyed it to the utmost.

It seems probable that the "children's friend," K. C. B., will want to do something else to make the little patients happy, and that other "generous friends" will send $1,000 checks to Mrs. Cameron for the same purpose—and that still "others seeing," may go and do likewise.

Our New Editorial Offices

The editorial offices of THE MODERN HOSPITAL in Chicago have been removed from the tower of the Tower Building on the lake front to the Conway Building, 111 West Washington street, corner of Clark. We now have a larger suite of offices, have considerably increased our personnel, and are planning our work on a more ambitious scale. We think that the changes will be reflected in a better, more interesting and profitable journal.

Miss Goodrich Assumes New Responsibilities

Miss Annie W. Goodrich, editor of the Department of Nursing of THE MODERN HOSPITAL and assistant professor in Teachers College, Columbia University, has recently been appointed director of the nursing service of Henry Street Settlement, New York city. Miss Goodrich will carry on her former duties in addition to those of her new post. The Henry Street Settlement furnishes field work for the post-graduate nurses' course in Teachers College.

New Officers of the West Virginia Hospital Association

The West Virginia Hospital Association has elected the following officers: President, Dr. Wm. A. McMillan, superintendent McMillan Hospital, Charleston, W. Va.; secretary, Dr. W. H. St. Clair, superintendent Bluefield Sanitarium, Bluefield, W. Va. The next meeting will be held in Wheeling, in May, 1917.

The Bethesda Hospital, a new institution, will soon be opened at Hornell, N. Y.

REMODELING A HOSPITAL

Obsolete Arrangement Brought Down to Date at Minimum Expense at Beth Israel, New York

BY LOUIS J. FRANK, Superintendent.

The present arrangement of the fourth floor and part of the fifth floor of Beth Israel Hospital may serve as an example of the many changes necessary to convert a hospital built, because of necessity, without anticipation of its future needs, into one which modern advance in hospital constitution and management demands. A glance at the original use of the fourth floor will indicate the lack of convenience in arrangement, the disregard of proper relation between use and value of space, and the inconvenient and unnecessary work in maintenance of so unbalanced a scheme. The changes made and indicated on the second diagram were consecutive to the order of their necessity, and have been gradually accomplished without suspending any of the activities of the departments affected.

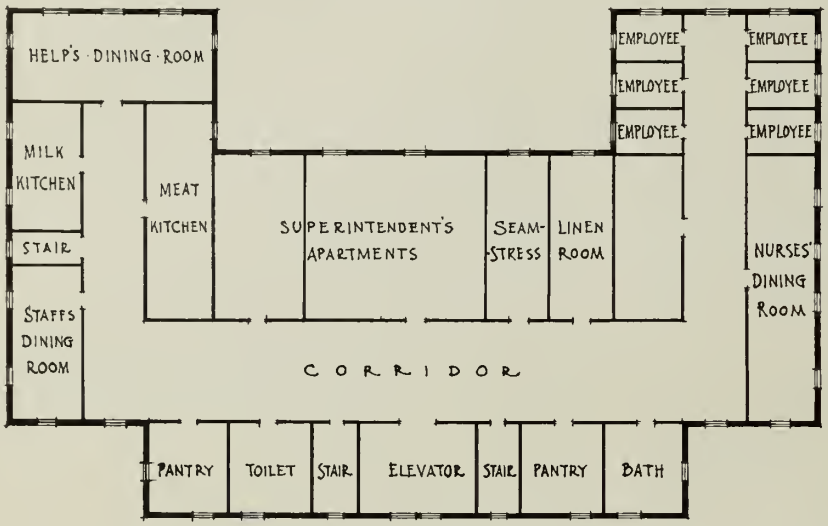

Fig. 1. Beth Israel Hospital. Fourth floor plan before changes.

The first change took the superintendent's quarters from the main part of the fourth floor, adjoining the kitchen, into the farther corner of the south wing, previously used as sleeping apartments of the matron, launderer, two porters, and one staff man. Part of this space was isolated by closing the corridor, and the apartments thus provided had the advantage of privacy, and gave to a larger number of inmates the convenience of kitchen proximity, the nurses' dining room now occupying space previously used by the superintendent. The old nurses' dining room at the end of the corridor, and thus distant from the serving room, was now converted into a completely equipped and thoroughly active pathological laboratory, with comfortable provision for eight to ten workers. This permitted extension of house staff duties in providing a preliminary laboratory course preparatory to duties on the medical or surgical staff. The clinical laboratory, previously on the third floor and now used as record and board room, was moved opposite and adjoining the pathological laboratory, and what was formerly the matron's room was converted into a bacteriological laboratory.

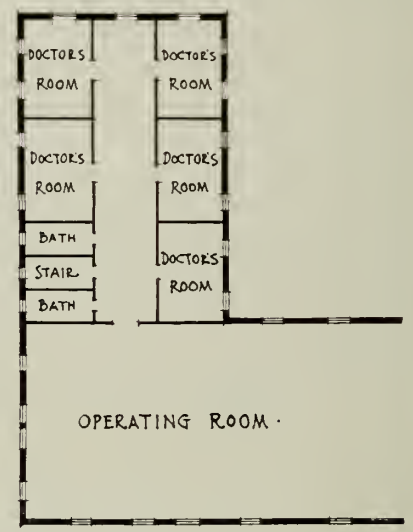

Fig. 3. Fifth floor plan before changes.

The radiographic room, which had been placed on a private floor in totally inadequate and inconvenient quarters, was now placed opposite the pathological laboratory in what had been a room for employees. As the needs of the department grew, a bath room opposite was made into a dark room, with apparatus of our own design, the first of its type in this country. It is this type of dark room which has since found its way into every large laboratory in the newer hospitals. An x-ray operating room then

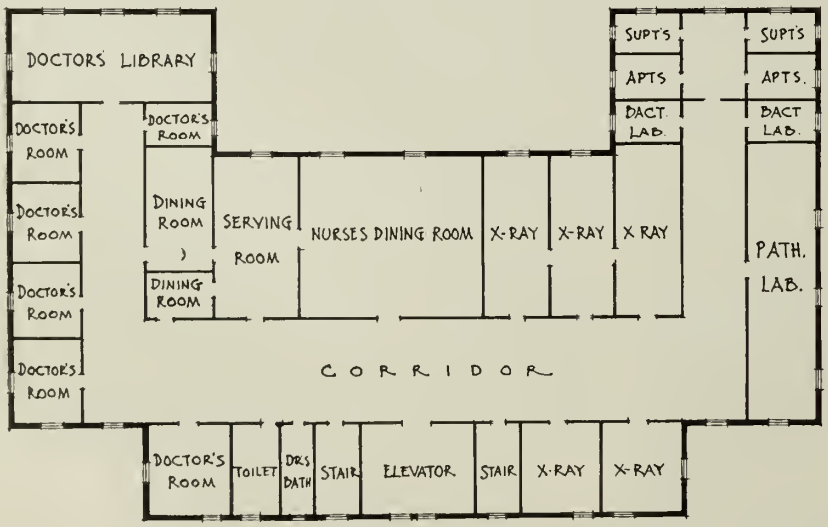

Fig. 2. Beth Israel Hospital. Fourth floor plan after changes.

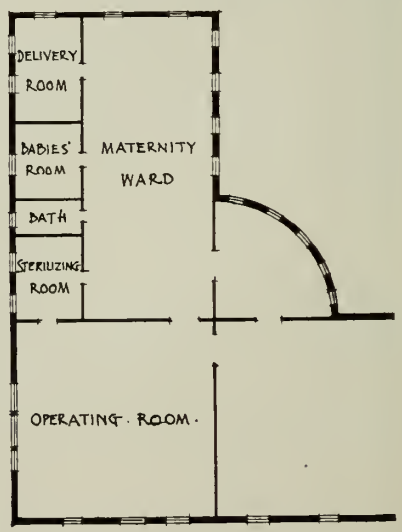

Fig. 4. Fifth floor plan after changes.

displaced the linen room, which was accordingly located in the basement. The pantry adjoining the dark room, and now inconvenient to kitchens, became a fluoroscopic room. Thus were centralized all laboratories except the clinical, which was established under a separate fund, as an iron and glass structure on the roof of the north wing. The physiological laboratory is in a transitional stage and is appended to the chemical laboratory.

Then arose the necessity of providing our nurses with training in obstetrical work, and abandoning our custom of sending them to other special institutions for this essential branch of their training. As a preliminary, the kitchens, pantry, and employees' (porters, orderlies, etc.) dining rooms were moved to the basement, and the pantry to a specially built room under the sidewalk. In the space thus obtained, sleeping rooms, bath, library, reception room, and dining rooms exclusively for use of the house staff were provided, permitting complete exclusion and privacy of staff when not on duty. The kitchen, now in the basement and communicating with the fourth floor by a dumbwaiter, permitted the installation of a serving room, with hot boxes, range, etc., between the three dining rooms, arranged so as to open off from this important station.

Thus was obtained the entire north wing of the fifth floor, which, when occupied as bed rooms only for the staff, represented as much space as an entire private pavilion of 16 beds, but was not accessible from the fifth floor, the only entry being through the corridor and staircase on the fourth. A passageway was built into the corridor on the fifth floor, and the corner of this wing adjoining the operating room was fitted up with new and efficient apparatus as a sterilizing room, replacing the old sterilizing room previously at the farthest extremity of the operating room suite. In this wing provision was made for a 6-bed obstetrical division, including delivery and operating room, infants' room, bath room, and diet kitchen. With tiled floors, indirect lighting, and modern equipment of accessory rooms, this ward has become ideal for its purpose.

The advantage of the changes outlined in this brief sketch are, of course, best illustrated by the advancement which they have permitted, and, whereas in detail they were possible only in our particular institution, in general plan may be adapted to the oft-occurring contingencies of other institutions.

ELECTRICITY IN THE HOSPITAL

Motors, Lighting, and Fuel in Great Variety Add to the Conveniences, Economy, and Efficiency of the Service

BY F. C. MYERS, The Society for Electrical Development, New York.

The series of articles in THE MODERN HOSPITAL by John Allan Hornsby, M. D., on The Small Community Hospital, is extremely interesting and instructive. Authorities like Dr. Hornsby evidently appreciate the importance of such factors as electricity in hospital life. Not all physicians, however, realize the important part electricity plays in alleviating suffering, facilitating the care of the sick, and making life in confinement more bearable.

First impressions are always important and lasting. First impressions on patients many times come a long time after they have entered, but usually the first impression is made immediately on entering the building. Therefore, the entrances, whether reception hall or ambulance receiving room, should be well lighted and ventilated and equipped with the conveniences necessary to create a feeling of security and good treatment. With the hall and reception rooms well lighted and ventilated, visitors are favorably impressed and in a mood to view with favor the work being done and all arrangements for comfort and convenience.

The lighting, of course, will be by electricity, which can always be available under even the most adverse conditions. The safety, convenience and effectiveness of electric light is too well understood by the medical profession to need any defense here. It must be pointed out, however, that quantity of light is not a measure of quality of illumination.

Certain rules and conditions must be observed if satisfactory results are to be obtained. There must be sufficient light to eliminate eye strain. There must be no glare, which means that the source of light must be out of the line of vision and no direct rays from the lamp should strike the eye. These requirements are easily complied with and no complications appear when the conditions are considered in connection with the large variety of fixtures available.

Ventilation is another important consideration for hospitals. The extent to which the air in a hospital is controlled will depend on the authorities themselves. Fans, of course, are well known and understood, and apparatus is now available not only for positively controlling the amount of air that enters the halls, wards, and rooms, but also for washing and controlling the temperature and humidity of all the air entering the building.

In certain industries buildings have been erected with the windows sealed and the doors airtight when closed. Air is pumped through air washers, tempering equipment and humidifiers, so that the temperature and moisture content is constant throughout the year regardless of outdoor conditions. At the same time there are no drafts, and sufficient air is provided for every person inside. This can be done for hospitals as easily as for any other institution. Most air-controlling apparatus is driven by electric motors on account of their safety, quietness, and reliability.

The next part of the hospital with which the public and patients come in contact may be the elevator. Electric elevators in many styles and sizes are available. Their safety is proverbial and if maintained in good condition are noiseless. Quietness is an essential if the best interests of patients are to be conserved. Electric elevators can be operated by an attendant or automatically by push buttons without an attendant.

Comparison of the cost of attendance and the interest on the increased investment necessary to install the automatic elevator, if the amount of service required is limited, will determine whether or not the investment should be made. Whenever the wage of an attendant will be more than the interest on the investment, the hospital management will find the automatic elevator advantageous. If the elevator will be in constant service or if there is an employee who can operate an elevator in connection with his other duties, the hand-controlled equipment will be satisfactory.

All designers of hospitals strive to locate all rooms and wards so as to have ample natural light and good, fresh air. As has been pointed out, artificial ventilation can be provided to meet every requirement and insure a constant circulation of clean, pure air at any desired temperature. Daylight, especially sunlight, cannot be surpassed, but frequently light is required on dark days and during the night, and electricity is the most practicable method of illumination.

Electrical installations can be made to meet any condition and light of any intensity can be provided. Light-

ing fixtures that give a restful, steady light, not trying to the most sensitive nerves, can be had and the new "daylight" lamps permit almost exact duplication of natural light. Electric light throws very little heat into the room and does not vitiate the air.

The diet kitchens are especially susceptible of electric treatment. Electric hot-plates can be used to advantage because they are heated by turning a switch instead of using a match or keeping a fire constantly burning. Fuel —in this case electric current—is consumed only when cooking is actually being done and the air is not fouled or vitiated. There is absolutely no fire danger. Electric water-heaters that will hold the temperature automatically at any predetermined point are available. These devices use current only in accordance with the amount of water used and can be operated constantly.

Coffee percolators, egg-boilers and other equipment can be operated electrically to excellent advantage and under absolute control at all times. This is a material advantage and eliminates much of the danger of spoiling the food being prepared for patients. Electric stoves with or without ovens and provided with time switches are available to meet any requirement.

In considering electricity for the diet kitchens, the requirements of the main kitchen are faced in minature. Electric ranges with all the features of gas or coal ranges are being manufactured and used with marked success. Electric cooking has several marked advantages: The heat is under absolute control always. The heat is constant and regular under all conditions, not being affected by varying drafts, temperatures or the conditions of flues. There is no oxidation to vitiate the air and no smoke or obnoxious gases. Practically all of the heat is used, very little escaping into the room to raise the temperature abnormally. Cool, comfortable kitchens enable chefs not only to do their work easier, but to do it better.

In the main kitchen, electrically operated dish-washing machines can be used with the assurance of absolute sanitation by thoroughly cleansing the dishes and eliminating the use of the insanitary dish-towel. There is other electrically operated equipment suitable for kitchens, such as bread-mixers, food-choppers, coffee-grinders and roasters, and vegetable-peelers.

If the hospital is more than one story high, some means must be provided for elevating food, drugs, etc., from the lower floors or basement. The elevators may be used for handling large quantities, but for individual service dumb waiters will be most convenient. They must be noiseless and easily operated and nothing can be quieter than an electric motor located in the basement some distance from the sick rooms and operated by pressing a button to lift or lower the dumb waiter. Several kinds are available and their action is positive and reliable. They materially facilitate and improve the service duties of the nurses.

The operating room and operating service rooms will require plenty of light and ventilation. Special lighting arrangements will be necessary for the operating room, in order that there shall be no shadows to interfere with the surgeon and his work. A special adjustable light that can be set to throw its light directly into the wound will be of material assistance. Electric sterilizers can be installed so that there need be no fire near the operating room. Ventilators can be installed to remove foul odors, to maintain the correct temperatures and to insure clean, fresh air for the patient, the surgeon and his assistants.

All these have a powerful influence that will help to lighten the operation for everyone. The equipment of the operating room is most important and should have the most careful study. The danger of infection is great and a slip of the knife due to fatigue or the mistaking of a part due to shadow may prove fatal.

Electric fans are an important part of every hospital equipment. Moving air under any circumstances is more beneficial than still air. Extensive experiments have demonstrated that moving air low in oxygen and high in carbon dioxid will have a less depressing effect than still air of the same or even better quality. Fans cost little to buy and little to operate. A 12-inch fan will consume about 55 watts and can be operated continuously for almost 20 hours for the cost of one kilowatt. This is at full speed. At lower speeds the current consumption will be proportionately less.

Fans can be used to insure proper distribution of heated air, cold air, or simply to keep the air in circulation. Fans have been used for drying clothes, for drying hair after washing the head. Set in transoms, they are used for expelling or impelling air. The same work can be done by placing them in open windows. They are especially welcome during the hot summer months, but their use is not limited to that season. If forced ventilation is installed for the entire institution, the need for fans may be limited to a certain extent.

Satisfactory signal systems must be electrically operated. No other method has been developed for doing this satisfactorily. Nothing is simpler or easier than pressing a button. Various methods of utilizing the energy thus set at work have been devised. Some hospitals depend on bells, buzzers or lights, others on combinations of these. Some arrangements start the operation of recording apparatus which records the time the button was pressed and the time elapsing before the call is answered.

Laundry machinery is especially well adapted to electric drive and operation. Washing and ironing can be done by electricity with less danger, quicker and easier than by any other means. Current is consumed only while the equipment is being used.

Mention should be made of refrigeration. Electrically driven refrigerating and ice-making plants can be had so arranged that temperatures can be regulated automatically within narrow limits. Electricity is used only for a short time daily. By installing refrigerating plants, low temperatures can be had where they are wanted and there will be no ice to be handled. A sanitary advantage in this arrangement is that the air will be dry in refrigerators, thus providing a dry cold instead of a moist germ-breeding atmosphere where food is to be stored. Lower temperatures are also obtainable and can be maintained indefinitely.

There are two sources of electric current: It can be purchased from a company making a specialization of its generation or a private plant can be installed. Which method is to be preferred can be determined only by a careful study of each individual case. In the past the service of central stations was not so reliable as it might have been, but now guarantees can be made for constant service day and night. Private plants will be reliable in exact ratio with the quality of the equipment and the care taken in their operation.

Sanitary and safe hospitals are the objectives of all builders. Electricity plays an important part in producing these conditions. Even heating can be provided by electricity under the proper conditions, but usually it will be found cheaper to install a heating plant. By locating this in a building away from the hospital proper it will be possible to have the hospital entirely free from fire and without high-pressure steam.

HOME TREATMENT FOR THE TUBERCULOUS

How the Committee for the Care of the Jewish Tuberculous Has Solved the Problem—Restoration to Economic Usefulness an Essential Part of Treatment

BY EDWARD HOCHHAUSER, Executive Secretary Committee for the Care of the Jewish Tuberculous, New York City.

"Would you help a blind man half-way across Broadway, and then leave him to care for himself the rest of the way? If not, would you help a patient suffering from tuberculosis half-way across the road to health and economic usefulness, and then let him go the rest of the way as best he could?" We addressed this question to the New York public at the end of a two-year experiment in the after-care of sanatorium patients. This work was the outgrowth of a study conducted in 1912, which showed that of the patients discharged from one sanatorium, the cases being classed as improved, quiescent, or arrested, about 45 percent were dead or worse within six months to two years after discharge. Our experiment was conducted to determine whether this waste, due to relapses, could not be reduced.

We believed that our work, to be most effective, must concern itself with the patient as part of the family; that we often failed because we treated the patient as if he were isolated and living alone. The family and not the patient was the unit of care. Our work was primarily a scheme of after-sanatorium care, as in most instances we took the family under care after the patient had been discharged from the sanatorium. A large number of the patients stayed but a few months and were discharged as improved or quiescent. We found that practically all discharged patients, even those with so-called arrested and apparently cured cases, required careful follow-up and care. Our scheme of periodic physical examination of all members of the family has been the means of locating fourteen new cases of tuberculosis; most of these were unsuspected and in the early stages. Where the patient or the family showed sufficient intelligence and willingness to cooperate, and the patient's condition was not too far advanced, we have kept him at home. Our results with comparatively few patients (sixteen) kept at home from six months to two and a half years have prompted us to extend this phase of our work, and we are treating at home, and often at work, patients who were awaiting admission to sanatoriums. In instances of anemic children, we have kept at home many who were proper subjects for the preventorium. Our experience justifies the belief that gains made at home are more lasting and beneficial to the child than those had away from home. We have been able to secure the cooperation of the family by demonstrating what proper care and diet do for one child, with the implication that this can be done for the rest of the family.

In the instances of families requiring relief, extra allowances are granted. While it increases the cost of caring for the family, it is more economical than institutional care. There are instances in which institutional care is necessary, just as in many cases sanatorium care may be necessary before the home care can be effective.

Now, in the third year of our work, we are taking the family under care when the patient is accepted for the sanatorium. This gives us an opportunity to reach the family earlier, aid the family medically or socially while the patient is at the sanatorium, with the result that the patient is assured that his family is provided for during his absence, and on his return he finds them in better physical condition than when he left them.

We often found it necessary to move the family to better neighborhoods and more sanitary rooms, but they have been moved to tenements in which they could afford to live. Our committee is now caring for 215 families, in which there are 912 individuals, of whom 249 are tuberculous. Of the 215 families and single patients under care, 111 (51 percent) required relief when first taken under care; 54 of these are now self-supporting, so that 57, or 26.5 percent of the total number still require relief.

Our method of treatment includes a physical examination, and periodic reexaminations of all members of the family, with particular emphasis on the patient. Medical aid is given in the form of extra diet, medicines, or if the mother is the patient, relief from heavy housework. When financial assistance is necessary for rent, food, or clothing, it is granted through the committee, the United Hebrew Charities, a part of our committee, cooperating in each case. The care given ranges from medical care, home visitation by our nurses, dental treatment, to an annual allowance of $600 for food, rent, and clothing, for one family with seven children under 15 years of age.

Our purpose is not only to arrest the disease, but also to return the patient to economic usefulness and independence. The patient on his discharge is often able to work but part time. He needs to be carried through a period of industrial convalescence, and gradually returned to old-time working capacity.

Returning a patient to industrial life is distinctly a part of his treatment. At least a contributing cause in the relapses that occur is the fact that the transition from no activity, or a few hours of institutional work, to the demands of industry; a full day's work at full speed is too great. We found, however, that employers were not disposed to allow part-time work—they could not afford to keep part-time workers. To safeguard the health of the workers, control the hours and amount of work, and the working conditions, we found it necessary to start a factory of our own. As over 60 percent of our patients are in the needle trade, we decided to conduct some form of needlework. We soon found that it was both advisable and practicable to teach others, not in this trade, to do this kind of work, so that they might be kept under the supervision and control afforded by this factory. Some patients, not in the needle trade, returned to their own work, and were kept under close medical observation. In many instances their work periods had to be broken up with periods of rest. Others, who showed a capacity for business, were started in some small business. Loans for this purpose were made, these varying from a few dollars for peddling to about $600 to start one of the patients in a paint store. Some, more notably three of our peddlers, one tailor, two small storekeepers, and our painter, have done very well, but comparatively only a few were successful, or conserved their health. The worry incidental to conducting a business often undermines their health.

Our factory is conducted in an ordinary well-lighted loft—some extra windows have been put in so that we might have sufficient light and air. While a comfortable temperature is maintained, the windows are kept open all the time. Our most interested advocate of fresh air is our foreman (not a patient), who formerly conducted a contractor's shop of the poorer kind. He had occasion to remind one of the manufacturers for whom we work, a man who at first was afraid to let us do his work, that in our factory we do not permit anyone to spit on the floor—so would he kindly wait until he returned to his own office.

All workers at the factory are examined regularly. Only patients with negative sputum are accepted. For a number of months they are examined every week or two,

then every three or four weeks, and after about six months they are examined every four or five weeks, unless otherwise directed by the physician. Nearly all workers are paid on a piece-work basis, and the pay is at least as good as the prevailing union wage. The hours of work range from two to eight hours a day, and the kinds of work from buttoning shirts and sewing hooks and eyes to pressing dresses—or perhaps we should say, up to cooking the noonday meal and taking care of our lunch room, for our cook is one of our patients. This patient had been going down hill, but since she has been at the factory, one and a half years, she has improved.

Most of the patients who started at the factory in June, 1915, when it was opened, had not been engaged in any regular work for from two to six years, being maintained by relief agencies during this period. With the exception of one patient, all who started when the factory opened are working full-day, are doing well, seem glad to work, and many are self-supporting. Some, like Mr. Kl., were considered second-stage cases, with a very small capacity for work, and, because of our inability to find work that the physician thought they might be able to do, we were compelled to maintain them in idleness. Such patients are often forced to enter a hospital. We do not send a patient to a hospital because he is unemployable, or because we have no work that he may be able to do. Mr. Kl. with his family had been maintained in the country for about three years, during which time he gave a history of frequent hemoptysis. We brought the family back to New York, principally because the man had shown no improvement in his physical condition, and his disease apparently was progressing. The doctor permitted Mr. Kl. to start on two hours' work. Incidentally, when the man went to the factory he was found to be very inefficient, so that we not only had the task of returning him to economic usefulness, but that of making him more efficient. This twofold problem has presented itself in many of our cases. Kl.'s hours of work were increased very slowly, but at the end of seven months he was found able to work a full eight-hour day, at which he has continued since. His lung condition has improved and is now arrested; he has gained in weight, and his earnings have been increased from $1 to $9 per week.

Other patients have improved in physical condition and in economic efficiency, working in our factory under medical supervision. The ability to do work and to be self-supporting is an encouragement to patients. On the other hand, we occasionally have patients who, after one or two weeks' trial at the factory, are found unable to work.

"Why don't you extend your factory by making hospital gowns?" was often suggested to us by superintendents of hospitals and sanatoriums. As a result of this suggestion we started the manufacture of gowns with orders from Montefiore Home and Mount Sinai Hospital. Not having any large selling cost, we found that we could save money for the hospitals and enable our workers to earn a living wage. This is a hopeful development, as it seems to meet our greatest obstacle thus far—phthisiophobia—and poor paying work.

We realize that two or three years' experience in the treatment of tuberculosis is not conclusive. It is, however, fair to contrast the health of the patients under our care with the condition of patients who had not received our special care, but had also been home from the sanatorium the same length of time.

The study mentioned in the beginning of this paper showed a relapse amounting to almost 45 percent for patients who had been home from six months to two years. In the families under our care, patients in the same condition, six months to four years after discharge from the sanatorium, the relapses were less than 15 percent.

Thirty patients are being treated at home. Sixteen patients have been under care from six months to two and a half years. With the exception of one, who afterward went to the sanatorium, these patients have done well, and most of them have been at work, maintaining themselves and their families in part or entirely. The results in these few cases compare favorably with the health of our sanatorium patients, and have justified us in extending the work to treating at home patients who ordinarily would be sent to sanatoriums for the first part of their treatment.

We have demonstrated that by after-care or home care we can save many patients from relapses and premature death. This treatment, however, must be intensive, and where relief is necessary it must be generous. This form of medical social treatment, by treating patients and their families in their own homes, can be readily extended, as the cost is not prohibitive, and can be maintained by the patients when they are restored to industrial usefulness.

SUMMARY

We believe that:

After-sanatorium care is an important part in the treatment of the tuberculous. Many of the relapses, which now occur, can be reduced by after-sanatorium care.

This is distinctly home treatment.

So long as the patient is part of a family the best results, especially in the instance of a father or mother, can be secured only by treating the patient as part of the family.

Intensive medical and social care of the families of the tuberculous means the early detection and diagnosis of unsuspected cases and the detection and treatment of ailments and diseases other than tuberculosis; it means the prevention of disease.

An important part of disease prevention and treatment is dental treatment.

Many patients can be treated at home with as good, if not more lasting, results, and at less cost. This does not mean that sanatoriums are not necessary, for many patients cannot, will not, and often should not be permitted to take the treatment at home, or at least not until they have learned how to care for themselves, and their disease is controlled.

The return to economic usefulness is a distinct yet important part of the home care of tuberculous patients.

Any scheme of treatment that is incomplete is an economic and human waste. The home treatment of the tuberculous makes more effective the treatment of tuberculosis and strikes the disease at its source, so that it becomes a most important factor of the campaign in the prevention of disease.

A hospital erected midway between Aberdeen and Hoquiam, Wash., by Grays Harbor County four years ago, but never used, has been leased by Drs. Geo. E. Chamberlain, J. B. Kinney, and Oliver R. Austin, all of Aberdeen, and will be opened about March 1, under the name Aberdeen General Hospital. The building has a capacity of 50 beds.

The Steedly Hospital, a private institution conducted at Spartanburg, S. C., by Dr. B. B. Steedly and others, has recently moved into a beautiful, new, four-story building, erected at a cost of $110,000 and said to be equipped in a very complete and up-to-date manner. Accommodations for 75 patients have been provided. Mrs. Frances M. Montgomery is the superintendent.

MUNICIPAL TUBERCULOSIS DIAGNOSTIC STATIONS

The City of Chicago Proposes to Found a Unique Institution for Bringing Group Diagnosis Within the Reach of the Ordinary Practitioner

The Chicago Municipal Tuberculosis Sanatorium now conducts eight dispensaries in various parts of the city. These have grown slowly from a beginning several years ago in one small room. They are now, in the main, housed and conducted very much as are most other clinics and dispensaries—that is, in unsuitable, insanitary makeshift quarters, with inadequate facilities and by an overworked staff. The clinic at Grand Crossing, for instance, is lodged in a small store fronting on a public street. At Rush Medical College Clinic four examiners work in a room facing on a noisy street, and divided only by cotton curtains.

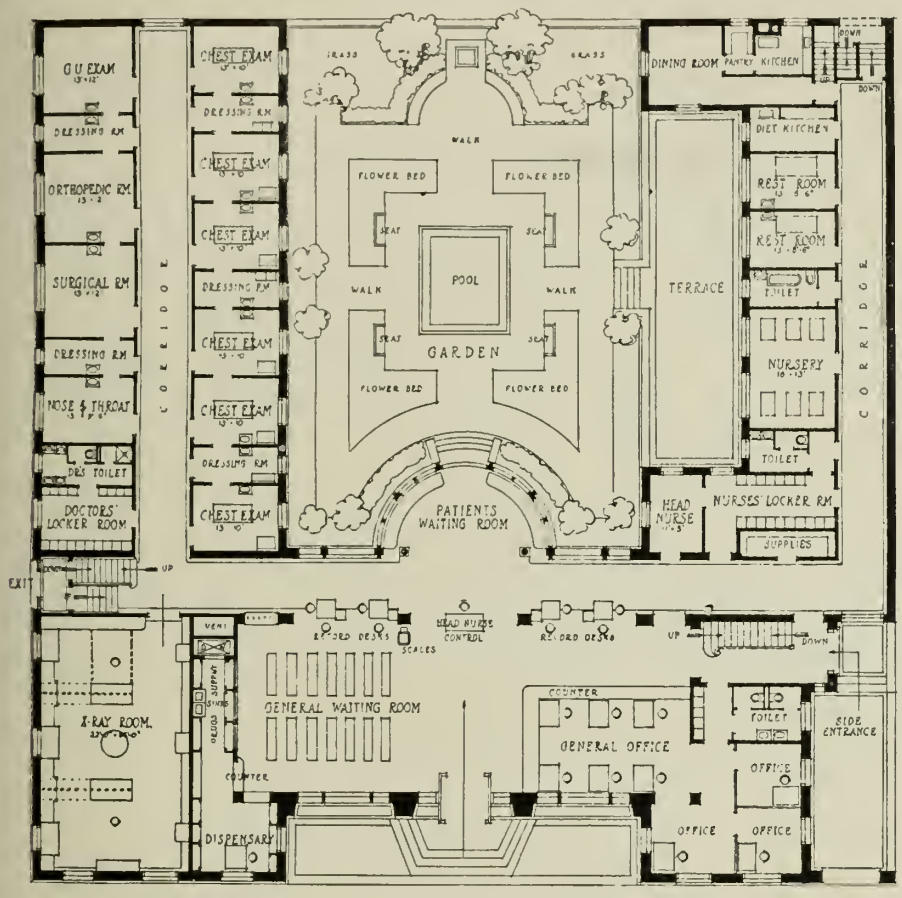

Fig. 1. First floor plan of proposed tuberculosis diagnostic stations for Chicago.

Realizing that this was not solving the tuberculosis problem, Dr. C. P. Caldwell, president of the board of directors of the Chicago Municipal Tuberculosis Sanitarium, brought the matter before the attention of the executive committee of the consulting staff of that institution. This committee, composed of Drs. A. J. Ochsner, John A. Robison, C. S. Bacon, Carl Beck, Augustus A. O'Neill, D. A. K. Steele, James A. Clark, Edward B. Tuteur, Charles H. Parkes, M. Z. Albro, and Effie L. Lobdell, spent a summer in study of the problem and evolved a unique and comprehensive plan, believed to be adapted to the situation in Chicago. This project is now before the finance committee of the city council.

The plan provides for the erection of diagnosis stations, each provided with every facility for the detection of tuberculosis in any and all of its forms. Chicago is divided by the Chicago River into practically three cities, the south, north, and west sides; hence three main stations are planned, one for each side of the city. Tributary to these main stations is to be a system of dispensaries. While the city will, of course, own the diagnosis stations, it is thought that fluctuations of population can be better provided for if the dispensaries are lodged in rented quarters, on the same principle as the federal government, while owning the postoffice buildings and sites, rents quarters for the postal stations. The board of directors now has funds to build two of the diagnosis stations, which, it is estimated, will cost $75,000 each. The tentative floor plans, as submitted to the Chicago medical profession for criticism and suggestion, are shown in Figures 1 and 2.

These floor plans, it will be seen, provide for an ample suite of examining rooms, as well as laboratories, x-ray room, etc. It is worth noting that the device of having the inner tier of rooms open on a garden court, with southern exposure, insures automatic disinfection by floods of air and sunshine. Rest rooms are provided for patients who may have found the journey a strain; a diet kitchen, in case the patient needs food to brace him up for his return home; a nursery, where sick or fatigued children may rest before examination. The amphitheater on the second floor, to be used for lectures on public health, conferences of social workers, young physicians, and nurses in training, indicates that it is intended to use these fine buildings as community centers for public health education.

The beautiful surroundings, as well as the provision for the comfort of patients, must tend to make them come more willingly. Fine, sunny rooms opening on beautiful gardens filled with flowers, trees and shrubbery and with a large porch or Moorish gallery on one side where patients may rest while awaiting examination, careful attention to the immediate needs of patients for nourishment and rest—all this is going to produce a very different reaction in the public mind from that induced by the unattractive, unhygienic surroundings in which dispensaries are too often conducted. Perhaps it is not too much to say that the reaction on the minds of the members of the staff is going to be desirable. No matter how high the ideals of the ordinary, overworked dispensary physician, his slovenly surroundings must tend to depress his respect for his patients and his own work. Here, where everything centers around the patient and his individual personal needs, the members of the staff, one would think, will never fall into careless, perfunctory ways, or fail to remember that their patients are not merely "cases" or "material," but suffering human beings.

The intention is to put at the private practitioner's service, free of charge, all those facilities for accurate and thorough group diagnosis which otherwise would be abso-

lutely unattainable for patients in moderate or poor circumstances. The floor plan indicates the scope of these facilities for x-ray, genitourinary, orthopedic, surgical, and nose and throat examinations. The biological laboratory is to be in the basement and is therefore not shown on the plans. The work is to be in the hands of a salaried staff, the members of which are to be, so far as possible, full-time men.

The records of diagnosis are to be made in triplicate. One copy is to be kept at the diagnosis station, one is to be preserved at the central office, and one is to be sent with the patient to the dispensary nearest the patient's home. A system of numbering the records is to be adopted which will indicate the patient's geographical location.

The plan has been submitted for criticism and comment to the Chicago medical profession. The great majority have approved it, having in view especially the fact that tuberculosis is largely a disease of the poor, and that it can never be stamped out unless the self-sacrificing work of charitable private practitioners is reinforced by public aid. Such opposition as exists is due, in the opinion of Dr. Caldwell, president of the board, to the inevitable misunderstanding and mistrust of new institutions. The fact that the physicians engaged in this work are paid and in the main employed on full time, it is felt, removes all just cause for complaint on the part of the medical profession. It is hoped and believed that Chicago physicians will come to regard the diagnosis stations as their own, and that they will not only bring their patients there, but come there themselves to work and study.

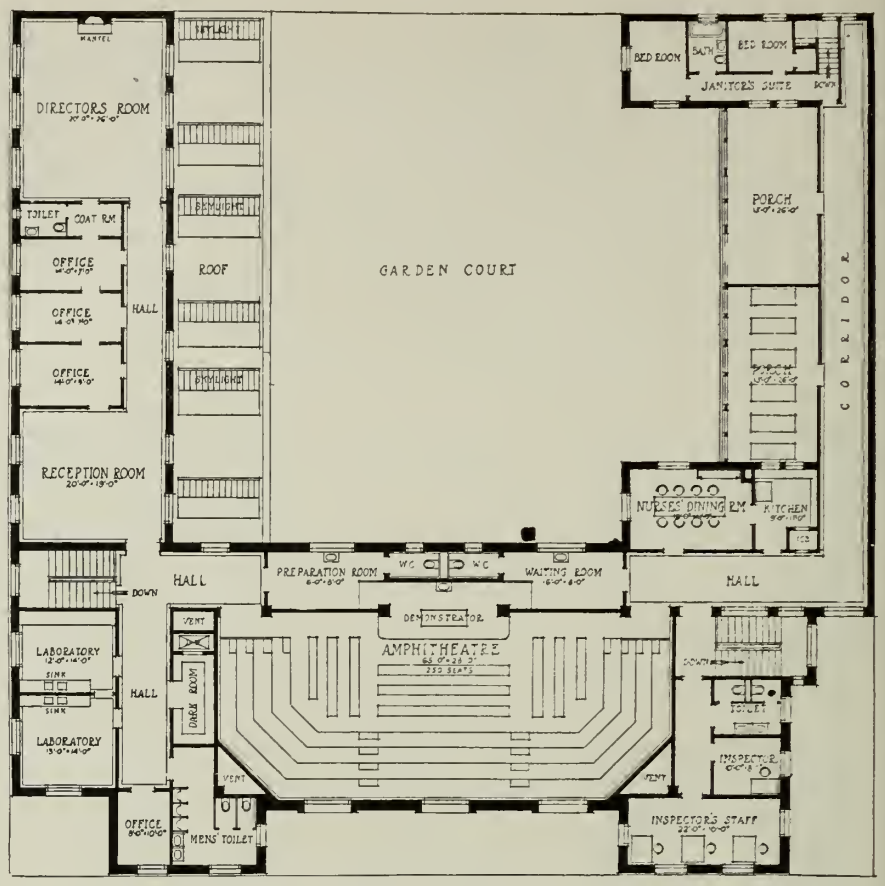

Fig. 2. Second floor plan of proposed tuberculosis diagnostic stations for Chicago.

HISTORY SHEET SHORTHAND

The Story of the Expert Diagnostician and the Puzzled Intern

The system of abbreviations used in some hospitals for recording diagnoses, physical findings, etc., may be a time-saver for the history taker or diagnostician; it is often a time-consumer for those who come after him. It seems evident that, while such individualized systems may work very well for temporary memoranda, used only within the hospital, they should never be inflicted on outsiders. If the histories are typewritten—and they always should be—it is an easy matter to furnish the typist with a key to the code and direct her to spell out all abbreviations.

Apropos of this, Dr. J. N. Hurty, commissioner of health of Indiana, tells the story of the expert diagnostician whose habit it was to write "t. f." for typhoid fever, "pn." for pneumonia, etc. One young man who received the expert's diagnoses was often considerably puzzled by the abbreviations, but his pride would not allow him to admit failure, and he managed to work them out very well until he met defeat before the abbreviation "g. o. k." Neither his medical dictionaries nor his other authorities threw any light on the subject; no more did his examination of the patient, whose condition was obscure. At last, greatly mortified, he went to the office below to see the expert diagnostician, who said in surprise, "Why, don't you know what that means—g. o. k.?" The intern, in humiliation and despair, confessed his ignorance. "Oh," said the expert, in sublime disdain, "that is very simple. It means, 'God only knows.'"

Linoleum and Imitation Leather

BY ALLEN ROGERS, Committee Chairman Pratt Institute, Brooklyn.

There is a great difference between oilcloth and linoleum. Ordinary oilcloth is a coarse jute canvas, painted over a number of times on both sides with a low-grade paint and a finishing application of a printed paint design on one side, followed by a light coating of varnish to the wearing surface.

Linoleum is an entirely different thing, and its chemical philosophy is given by Mr. Armand de Wiele, of Staines, England, in the January number of the *Journal of Industrial and Engineering Chemistry* of the American Chemical Society. In 1864 Frederick Walton discovered that linseed oil, if treated with certain driers and heated and treated with air under given conditions, becomes jelly-like, and that this product, with rosin and gum kauri, on further oxidation by a second process, hardens into a tough substance like leather. The cloth holds linoleum together, but it is this leather-like, thick covering that gives it its wearing qualities. A modification of the process has been applied to the manufacture of imitation leather, which today is doing much to relieve the shortage in the national product.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

Another Step in the Antituberculosis Campaign. Louis G. Vogel. Jour. Outdoor Life, 1917, XIV, No. 1.

The author was discharged from a sanatorium after a stay of nineteen months. He was greatly improved, but homeless and under the necessity of self-support. He could not make his mode of life obviously different from that of the normal people around him under penalty of becoming a "social outcast." Following the visit of an injudicious tuberculosis nurse, indeed, he was almost ordered from the Y. M. C. A. dormitory, where he had taken lodging. The food problem he found most trying, though he had no special digestive difficulties. There was also the temptation to neglect his own condition through weariness and lack of incentive. "As I look back over the struggle of that first year," he says, "I seem to see clearly one important reason why many sufferers from tuberculosis are apt to do so well at the sanatorium, where six to eight hours' manual labor has no detrimental effect when combined with good food, proper rest in well-ventilated sleeping quarters, and absence of domestic cares generally—only too soon go to pieces when attempting the same amount of work outside. . . . When one considers how much money and effort are spent to help people back to health . . . doesn't it seem like throwing all this money and effort into a hole to let an arrested case leave the sanatorium and embark practically unsupported on a new effort at life, under harder conditions, that is sure to end in disaster within a year in so large a number of cases?" Vogel suggests the building of small hotels for homeless convalescents of the type which should embody most of the domestic features of the up-to-date sanatorium, such as outdoor sleeping rooms, with warm dressing rooms, tub baths and shower baths, rooms devoted to suitable recreation, etc.

Cost of Treating Pulmonary Tuberculosis, With Special Reference to Wage-Earners and Communities. John F. Russell, M. D. Med. Rec., New York, 1917, XCI, No. 3.

Russell says that tuberculosis is largely an economic problem. Most tuberculous patients eventually become dependent, and he questions whether the vast sums being spent on antituberculosis work are spent in such manner as effectively to halt "the oncoming recruits of the enormous army of the dependent." "My proposal," he says, "is to treat wage-earners, who are mainly ambulatory cases, in special dispensaries. By this means patients in all stages of the disease may be treated without interruption to work, with no time limit to length of treatment. The present plan is to stop their work, send them to sanatoriums to keep them for a limited time and then return them, whether better, worse or stationary, without further systematic supervision, to their original surroundings." The reason patients cannot be induced to stop work for treatment in the incipient stage, Russell says, is not that they cannot understand the gravity of their condition, but that they and those dependent on them cannot live without wages.

Russell compares the cost of treatment at a special dispensary (his own) and at the Otisville Sanatorium. Fifty patients (this number should not be exceeded at a special dispensary, in his estimation) were treated in his dispensary for a year at a cost of $10,631. A year's treatment for the same number of patients would cost $26,827 at the Otisville Sanatorium. The fifty patients at the dispensary were able to earn $34,268 during the year of treatment; during sanatorium treatment, of course, all remunerative work is suspended.

Arrest of the disease was produced at the Otisville Sanatorium in only 13 percent of cases, according to the 1913 report. Russell has never estimated yearly results obtained at his dispensary, but a group tabulated in 1906 showed apparent arrest in 63.85 percent of the cases ten years afterward.

He enumerates the advantages of dispensaries over sanatoriums, among which are: accessibility to wage-earners, possibility of continuing treatment as long as desirable, small cost of plant and of treatment, saving of wages, and large ultimate percentage of apparent arrest of disease.

Results Obtained by the Class Method of Home Treatment in Pulmonary Tuberculosis During a Period of Ten Years. Joseph H. Pratt, M. D. Boston Med. and Surg. Jour., 1917, CLXXVI, No. 1.

The Emmanuel Church Tuberculosis Class was organized July 1, 1905, for the sanatorium treatment of consumptives in their own homes. Medical advice was given the patients in class meetings once a week, and they were visited at their homes by the class nurse. Patients kept their own records of temperature, pulse, hours out of doors, amount of exercise when exercise was permitted, etc. Insistence was placed on rest in the open air, and patients were provided with facilities for the purpose. Absolute rest in the active stage of the disease, even for nonfebrile patients, was insisted on more and more. Patients in all stages of the disease were accepted, none being refused who promised strict obedience to rules and regulations.

From July, 1906, to July, 1914, 189 patients were admitted. Only two of these were finally lost sight of. The record of the others up to July 1, 1915, was: well and working, 104; living, but unable to work, 14; dead, 69. Fifty-six percent of all those admitted to the class (the majority being then beyond the incipient stage) during nine years were restored to health. All patients who remained in the class until, in Pratt's opinion, the disease was arrested and return to work was permissible, were graduated from the class. Of the 87 graduates up to July 1, 1915, 85 percent were well and working on that date. Of 88 patients who left the class for various reasons from four to eight years ago, 66 percent are alive and 60 percent are working. Pratt contrasts those figures with those given by Bardwell for two leading English sanatoriums for the well-to-do (52 percent of discharged patients well or alive four to eight years afterward) and those given by Farmer for Massachusetts sanatoriums (24 percent of patients leading normal lives four to seven years after discharge). The total expenses of the class for the ten years,

which amounted to about $16,500, were borne by Emmanuel Church. The total earnings of the ex-patients since leaving the class amount to about $250,000, and the earnings for the year ending July 1, 1915, amount to $50,000.

Practical Considerations on the Conduct of Work at a Tuberculosis Dispensary. Henry A. Ellis, M. B., B. S. Brit. Jour. Tuberc., 1917, XI, No. 1.

Ellis, who is tuberculosis medical officer to the country borough of Middlesborough, Yorkshire, has made it a principle to employ the limited funds at his disposal in the treatment of patients in the order of least infection. This policy has apparently been successful in reducing the number and ameliorating the condition of cases. When cases are reported early, they rarely "go to the bad." Patients are first observed in their homes, attending regularly at the tuberculosis dispensary once a week, and being visited periodically at their homes by the nurses.

Ellis suggests that providing suitable places for recreation of tuberculous patients during their leisure time would materially diminish the need for sanatorium residence and treatment. A holiday in the country benefits a few patients, but does not appear to be beneficial for many, the reason being that most persons do not know how to amuse themselves outdoors without excessive exertion, the fatigue from which more than offsets the good derived from the fresh air. A light, airy room containing books, pictures, magazines, and suitable games would remove the incentive for overfatigue in leisure hours.

In Ellis' opinion, active tuberculosis is a much more serious disease among the sheltered well-to-do than among the working classes, since the invasion, among the former, is due, not to unfavorable environment, but to naturally low resistance. A sanatorium, he believes, is more necessary in cases of naturally low resistance than in those of normal resistance which has been artificially lowered. Cases of lowered resistance, he says, are infrequent among the working classes, but in these cases the value of home treatment is much more dubious.

The Plan of the State Department of Health for More Tuberculosis Hospitals. Dr. E. R. Kelley. Boston Med. and Surg. Jour., 1916, CXXV, No. 15.

As there is now not adequate hospital provision for tuberculous persons in the state of Massachusetts, a bill introduced in the legislature proposes to place the establishment of tuberculosis hospitals upon the county governments. One of the chief reasons for this policy is the well-established fact that the people of any community are more inclined to take an active interest in an institution if it is their own and represents their own effort, energy, and direct investment of money, and if their local officials are responsible for its success, than is the case if the institution is one maintained by the state.

The Work of the Antituberculosis Dispensary of Venice (L'opera del dispensario antitubercolare a Venezia). Attualita medica, Milano, 1916, V, No. 10.

In 1909 the city of Venice appropriated 50,000 francs, which the late Dr. Missana had left the city, to the establishment of an antituberculosis dispensary. The institution, consisting of a small building with a waiting room, an examination room, and a small museum, was opened on January 1, 1913. It stands under the direction of the Venetian Society for the Prevention of Tuberculosis. The work is carried on by a physician, a chief nurse, and a few public-spirited ladies. It consists in educating the people on the infectious nature of the disease, in persuading tuberculous persons to go to a hospital, and in an extensive disinfection service in habitations with tuberculous patients. In 1914, 150 families received aid from the dispensary; 22,400 liters of milk and 40,000 eggs were distributed among needy people.

The Work of Construction of the Tuberculosis Hospital at Garbagnati (I lavori di costruzione del Tubercolosario di Garbagnati). Attualita medica, Milano, 1916, V, No. 10.

The city of Milan is erecting a large hospital for tuberculous people at Garbagnate. A considerable number of buildings, all on the two-story plan, are almost finished. The war has greatly delayed the work and it may take still some years until this magnificent hospital will be completed.

The Italian Hospital in Lugano, Switzerland. Dr. P. Pini. Attualita medica, Milano, 1916, V, No. 10.

This hospital owes its existence to the energy and ceaseless efforts of Dr. Pietro Capelli. When he came to Lugano, about fifteen years ago, he found there a large colony of his countrymen, few of whom were wealthy. There was great need of a hospital for Italian residents. Dr. Capelli at once went to work; he aroused the patriotic spirit of his countrymen, contributed largely himself, and in a short time he was able to erect the present hospital, of which he became the director. Modest in its exterior, it combines all the improvements of modern hygiene. It is a two-story structure and has ten sick rooms of three beds each, an operating room, a pharmacy, laboratories, etc.

Dr. Capelli was offered lucrative positions at other hospitals, but he preferred to stay with the institution which he had founded and which needed his labor and devotion. But his life was soon to be cut short. When Italy entered the great war, Dr. Capelli at once offered his professional services to his country and was mortally wounded in one of the battles on the Austrian front. His work will endure in the hospital which he so unselfishly founded. No man can wish for a more durable monument.

Paid Service in Hospitals—Its Advantages Over the Present Free System. M. Schulman, M. D. New York Med. Jour., 1916, CV, No. 3.

Schulman says that not the laity only, but many physicians, fail to realize the difference between modern medicine and the medicine of one or two generations ago. It is seldom possible for any one doctor to give the patient the benefit of good, modern medical care without the cooperation of one or more specialists. The poor receive the benefit of such cooperative team-work in hospitals and, to some extent, in dispensaries. The rich can pay for any number of specialists. The middle class, however, can neither benefit by the charity of hospitals and dispensaries nor pay for the services of expensive specialists. There is no reason, however, in Schulman's opinion, for the continuance of this condition. Groups of physicians and surgeons may cooperate to render better service; or dispensaries and hospitals may take paying patients for moderate fees. Schulman gives preference to the latter method, the hospital being more economical and better able to command the respect of patients. The pay service of a hospital or dispensary should be manned by salaried physicians, and the number of patients should not be allowed

to exceed an established maximum, lest the work become hurried. This would constitute an advantage, from the patient's point of view, over the private cooperative group, in which the income of the cooperating physicians is directly proportionate to the total amount of fees received by the office. Such physicians, no matter how conscientious they may be, will sometimes be suspected by their patients of "slighting" cases. Schulman admits that such institutions will draw patients away from private practitioners, but doctors will be required to man the institutions in proportion to the number of patients thus attracted away to them, and hence the loss of fees from private patients will be compensated by salaries from the new institutions. In addition, the opportunity to do good work will be greatly increased.

Group Study—A Plea for Medical Cooperation in Hospitals. Fayette Watt Birtch, M. D. Interstate Med. Jour. 1916, XXIV, No. 1.

The diagnostic section of St. Luke's Hospital Clinical Club, San Francisco, consists of a group of twelve men interested in different fields of medicine, organized to investigate referred cases, systematically and collectively, and to forward a diagnostic report on the return of the patient. Birtch emphasizes the difference between this work and that of the diagnostic section at the Massachusetts General Hospital and that of the Mayo Clinic. In these clinics, he says, the patient is examined by a clinician and then referred to others for reports according to indications. This means the omission of routine examinations in departments whose specialties may not, to the clinician, appear to be involved. Birtch believes that these obscure pathological findings in the unexplored fields may be overlooked.

By the St. Luke's plan, each member of the diagnostic team makes an independent examination and a written report of the findings. At noon each day the team meets for discussion of the cases. If any case is not cleared up, further investigation follows, and new findings are reported and discussed next day, this procedure being repeated until some conclusion is reached, when findings and recommendations for treatment are mailed to the patient's physician. The case is regarded as belonging to the attending physician, and he is invited to be present at all the meetings of the diagnostic team.

The charges are based on the patient's income. The rate is $35 for each $100 monthly income.

Birtch believes that the plan should be practicable in all well-equipped hospitals with 100 beds or more.

Labor-Saving Devices in Hospital Equipment. Edward F. Stevens. Trained Nurse and Hosp. Rev., 1917, LVIII, No. 1.

Stevens recommends using the brains to save the hands by the use of labor-saving devices, such as mechanical dishwashers in serving kitchens, as well as in main kitchens; simplification of all equipment; elimination of all unnecessary projecting finish; construction of floors requiring a minimum amount of attention; simpler systems of nurses' and interns' calls, and nurses' clinical records; movable tray racks, with ball-bearing wheels, lessening the work of the nurse by making it possible to wheel the loaded tray to the ward.

In the small hospital the dish sterilizer built with the steam table serves every purpose and economizes space. In every sick room there should be a blanket warmer, accessible to the nurses. This necessary adjunct is too often omitted in many of our modern hospitals. The proper disposal of soiled linen is a much-discussed question. It is undoubtedly easier for the nurse or maid to throw the soiled linen down a chute than to put it into a bag; but unless the chute is hygienically built, great danger is encountered of fouling a dark chute and causing unpleasant odors, and possibly spreading disease.

If we must have a clothes chute, then have a real one, with water- and gas-tight doors, glass enameled inside, with water connection for washing the entire interior. Then we may be reasonably sure of good, hygienic conditions.

The great benefit derived from having the patient in the open air has influenced the manufacturer of hospital beds in providing all sorts of casters and bed trucks for the moving of beds. The regular caster is all too small for moving the bed any distance. The large caster, unless provided with a brake, permits the bed in the ward to be pushed sideways too easily. The movable head and foot bed-truck is a cumbersome piece of furniture at best, and storage of same is sometimes troublesome.

The two-piece maternity delivery bed, which allows the adjustment of the stirrups and removal of the foot end of the bed when it is necessary to use instruments, is becoming more generally used in maternity hospitals, and is being made by several bed manufacturers.

The Royal Hospital for Indians of the City of Mexico (El Hospital Real de Indios de la Ciudad de Mexico). Dr. J. M. de la Fuente. Memorias y Rev. Soc. Antonio Alzate, Mexico, 1916, XXXIV, No. 3.

This is probably the oldest hospital on the American continent. It is quite likely that Cortez himself founded it a short time after the Conquest, for it had already existed for many years under the name of Hospital de Indios when Emperor Charles V, in 1541, issued a decree that hospitals for the Indians should be established in all the principal cities of Mexico. From that time on the institution was known as the Royal Hospital for Indians. It was a modest structure, partly built in wood, partly in adobe, and was situated on a large tract of land in the southeastern part of the city. With the exception of $1,400, which Charles V bestowed upon the hospital from his private funds, the institution depended entirely on the charity of wealthy people. In 1726 a tax was placed upon all the Indians in Mexico in support of the hospital, but the sum collected did not exceed $26,000. In 1721 the hospital was destroyed by fire. The king of Spain made a donation of $20,000, and in 1725 a new building was erected at an expense of $39,787. In 1770, by order of the king, a medical school was established in connection with the hospital. Classes in dissection, anatomy, and physiology were opened on February 3 of the same year. Before this time dissections had been made in Mexico only privately by physicians and students. All these innovations were due to the efforts of Dr. Antonio de Aroyo. After his death the institution declined, especially during the stormy years of the early part of the nineteenth century. In 1822 the government of Mexico closed the hospital permanently and converted its buildings into military barracks.

Organization of the Hospital Pharmacy in Stettin (Organization der Krankenhausapotheka zu Stettin). Dr. L. Derlin. Ztschr. f. Krankenanstalten, Leipzig, 1916, XII, No. 43.

The city of Stettin has established a common pharmacy for all its hospitals. It is managed by a chief druggist

(*Oberapotheker*) and two assistant druggists (*Hilfsapotheker*). The chief druggist is a public official and is entitled to a pension when he reaches the required age. The two assistants become pensionable after they have continuously served for twelve years. All prescriptions are filled in the forenoon and the medicines carried by automobile to the various hospitals. Special records are kept for the testing of drugs, for urine analysis, and for the examination of milk used in the various hospitals.

The Establishment of Barracks for Infectious Diseases in Institutions for Mental Diseases (Over de inrichting van barakken voor besmettelijke ziekten in inrichtingen voor geesteszieken). Dr. G. C. van Walsem. Ziekenhuis, Amsterdam, 1916, VII, No. 12.

The author studied the conditions in the hospitals for the insane in Holland with regard to infectious diseases. Most of these institutions have barracks for the isolation of such patients. The diseases for which isolation was necessary were chiefly typhoid, scarlet fever, erysipelas, and dysentery. The author believes in strict isolation of all patients with infectious diseases and of all bacillus carriers in separate pavilions.

Making Use of Woman as a Nurse in Time of War (De l'utilisation de la femme comme infirmière en temps de guerre). Dr. C. Fromaget. Jour. de méd. de Bordeaux, 1916, LXXXVII, No. 7.

When the war broke out it was necessary to increase the number of nurses in the various hospitals at once. In February, 1915, a nurses' school was established in Bordeaux and the course was opened with more than 500 pupils, but the number of trained nurses is still insufficient.

Woman, the author says, is especially adapted to nursing. Man is only exceptionally a first-class nurse, while woman is a born nurse. But she must possess the necessary physical and moral qualifications. Nursing is hard work and only a strong and perfectly healthy woman can do her full duty. The moral qualities are not less important: A nurse must be devoted to her work; she must be obedient; she must be discreet; she must be calm and composed; nervous women have no place in the sick room.

The Treatment of Venereal Diseases in General Hospitals of New York State Outside of New York City. Joseph J. Weber. Social Hygiene, 1917, III, No. 1.

The Committee on Mental Hygiene of the New York State Charities Aid Association desired to know what part general hospitals are playing in combating venereal diseases, particularly syphilis, since this is the most frequent cause of insanity among patients admitted to state hospitals for the insane. The Committee on Hospitals of the association therefore undertook an investigation of the matter. A questionnaire was sent to 107 general hospitals throughout the state, of which 42 responded. Of these 42, only 19 take free syphilitic patients of both sexes; only 21 or 22 take pay patients; only 17 give literature and instruction to patients regarding the danger of contagion; only 4 take any steps to see that treatment and follow-up service are continued after the patient leaves the hospital; only 16 reported on the number of patients treated for syphilis last year (total, 228 cases); only 9 furnish salvarsan free; only 8 are equipped for Wassermann tests, and only one requires a negative Wassermann before discharging a patient. Weber remarks that these findings show that the hospitals (a) apparently do not appreciate the significance of the venereal disease problem; (b) in many cases provide no facilities; (c) fail to give sufficiently thoroughgoing and effective treatment; (d) neglect follow-up work; and (e) make inadequate records. He asks if, on this showing, a systematic attempt should not be made to induce general hospitals to give more extensive and thoroughgoing treatment of venereal diseases, especially where dispensaries do not or cannot meet the needs.

The Hospital and Medical Education. Dr. C. R. Holmes. Lancet-Clinic, Cincinnati, 1916, CXVI, No. 13.

To render the best service municipal hospitals must not only care for the sick, but also aid in broadening our knowledge of how to combat and prevent disease; they must become teaching hospitals. For this purpose municipal hospitals must be brought to their highest efficiency. Permanency in the conduct of an institution is a prime prerequisite. The rotation system should be abolished everywhere. The selection of the medical staff for a hospital is a difficult task. A most successful private practitioner may be out of place in a hospital. In Europe, when a vacancy occurs in the head of a department in one of the important hospitals, men who have served for years as assistants in other great hospitals are selected to fill the position. In this country a physician or surgeon is often appointed to a position because he is the friend of some member of the hospital board, or on account of his political influence. Hospital boards will frequently appoint incompetent persons to these important positions for personal reasons, while in their private business they would select only the best qualified men. To obtain efficient service all persons performing work in a hospital should be properly paid for their services.

It is now coming to be an accepted fact that a medical college is in as much need of a hospital for the study of disease as it is of laboratories for scientific investigations. Dr. Councilman has well stated that a hospital must be regarded in a certain sense as a laboratory for the study of disease, and that the future and the highest development of medical education in this country is wrapped up with the control of hospitals.

A Preliminary Welfare Report of Cases Recently Discharged from the Watertown State Hospital. Frederick A. Causey, M. D. Illinois Med. Jour., 1917, XXX, No. 1.

Out of one hundred discharged patients, belonging chiefly in the dementia precox, intoxication and manic-depressive groups, only five were reported as not improved. Causey believes that a report on the condition of all patients after discharge would be of value.

A Methodist hospital, which members of the Methodist denomination in Tennessee, Arkansas and Mississippi have for several years hoped to establish in Memphis, was made a certainty on February 1, when a campaign for a building fund of $150,000 was closed with subscriptions amounting to $175,000. Architect John Gaisford, of Memphis, has plans for the new hospital already under way, and it is expected that construction work will be started at an early date. Mr. J. H. Sherard, of Sherard, Miss., is president of the board appointed to establish and manage the institution. Rev. H. M. Ellis, of Memphis, as field secretary, has been very active in promoting the movement.

Dr. William Mabon, an alienist of note, and for the last ten years superintendent of the Manhattan State Hospital, New York city, died in New York, February 9, of pneumonia.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Teaching of Home Nursing and First Aid[1]

BY ISABEL M. STEWART, A. M., Teachers College, Columbia University.

I am using this term because there seems to be no better one. Like "home" carpentering and "home" dressmaking, "home" nursing is applied to the work of the amateur as distinguished from that of the professional or expert. The term "home care of the sick" is preferred by many, but this narrows the subject down to the consideration of sickness only, while "nursing" in its original and broadest sense means the care of the well and the prevention of illness quite as much as the care of the sick. According to Florence Nightingale, "the very elements of what constitutes good nursing" are as little understood for the well as for the sick. The same laws of health, or of nursing, for they are in reality the same, obtain among the well as the sick. The breaking of them produces only a less violent consequence among the former than among the latter. She called this art "health nursing" and insisted that it should be a part of every woman's education and that the dominant idea must be the conservation of health rather than the treatment of illness.

The problem before us is whether we agree with Florence Nightingale that systematic instruction in this kind of elementary nursing is either necessary or desirable. Whether we approve or not matters very little so far as the existence of such courses is concerned, because they are already being given in all kinds of schools, societies, and clubs in all parts of the country. In the bulletins on "Education for the Home," prepared by Dr. B. R. Andrews for the Bureau of Education in 1914, it is stated that out of 163 colleges giving instruction in home economics, 35 were giving distinct courses in home nursing and 10 in the care of children; 42 elementary schools were giving courses in home nursing and 37 in the care of children, and practically every one of the hundreds of high schools where the household arts are represented includes under this general title similar instruction. This is only a fraction of the courses being given through outside clubs and societies, and though the numbers of these are not known, there is every evidence that the demand is increasing rapidly.

Requests come from all kinds of groups, from school children and college students, campfire girls and boy scouts, Y. M. C. A.'s and Y. W. C. A.'s, factory girls and society women. Intelligent mothers who have been impressed by their hopeless ignorance and incompetence in the presence of some common household need; girls who are expecting to be married and want to be prepared for the duties of family life; people going into social work and church work of various kinds, who want to be ordinarily intelligent (or intelligently ignorant, as one person puts it), when confronted with problems of sickness; boys and girls who are deeply interested and want to learn things that will be useful and helpful—all these and many others are clamoring for such instruction. Undoubtedly less admirable motives are sometimes found, particularly since the spread of the "war-nursing" craze of the last two years, but occasional evidences of abuse or perversion should not blind us to the real demand. In all such cases we have to consider and provide for the needs of the average person, not the exceptional person, in the common situations of life.

The suggestion of any kind of nursing course outside of the hospital is apt to meet with so much doubt and distrust that it may be better to consider here a few reasons, apart from the public demand, why it seems to be advisable to provide some such instruction.

We will all agree that in spite of the undoubted progress in the prevention and care of sickness, the average person is still ignorant of the commonest means for keeping people, especially children, well, or caring for them if sick. Such ignorance can be relieved only by a more comprehensive general education, which will distribute broadly the necessary facts, according to people's needs and capacities.

Then, too, in spite of the multiplication of hospitals, and the extension of visiting nurse services, there are still many families in which expert nursing care is an economic impossibility, and where more or less heavy responsibility may have to be borne by sisters, mothers, and other members of the family. This is especially necessary in long chronic illnesses, in convalescence, and in the minor diseases of childhood, even where there is no economic problem; on farms, in camps and rural settlements, where situations may arise at any time that require prompt and intelligent care if life is to be saved. Indeed, such emergencies may occur on the streets of crowded cities or in any home, without a physician or a nurse at hand. What here can we do to make human life safer? Is it better to trust to the specialists entirely, even though they are not always available; or is it better to give every man, woman, and child such information as he needs and can sefely use?

We all agree on the desirability of giving the public sound teaching on hygiene and sanitation. We believe that good courses on physiology and on hygiene, and even on bacteriology, should be a part of every person's education. But where it comes to the borderline between health and disease, we always wonder whether the dangers are not greater than the possible gains. We remember the long struggle we have had to demonstrate to the public that expert nursing is as important as expert medical care in saving life and reducing suffering, and to convince them that devotion and intelligence alone are not sufficient guarantees of nursing ability and skill.

It is not astonishing that we should feel this way, because as a rule we as nurses deal with acute, serious illness, and with conditions where critical situations are apt to arise at any moment. But it is undoubtedly true that there are many kinds and degrees of illness which do not require expert nursing care, and many simple nursing measures which do not require extensive knowledge and skill to be used safely. A number of the things we do for patients are really household and sanitary measures rather than medical or nursing measures. They have been used

[1]Read at the twenty-second annual convention of the National League for Nursing Education, New Orleans, La., May, 1916.

in households for generations and are used every day by all kinds of people. We have perfected them and standardized them, but that is no reason why they should be considered as sacred mysteries to be jealously cherished, like trade secrets.

It is encouraging to feel that we are getting free from this narrow guild spirit which used to be so common in the medical profession and which is not unknown in our own. It is being penetrated gradually by a broader social spirit which considers the common good first and foremost, and the prestige and advantage of the professional group as secondary. While our field is contracting on one side, it is expanding in many other directions. Just as medicine has standardized and passed over into our hands one after another of its time-honored functions—grudgingly sometimes, we will admit—so it seems to me we must be ready and willing to pass on into general currency any of the commoner measures that we have worked out which will prove serviceable and safe for other people to use. We have had to struggle so long to secure the knowledge which would enable us to administer our own duties safely that we should be particularly sympathetic with those who are feeling their way to a better understanding and a more skillful handling of their very necessary duties.

Many people fear that the opening up of such courses would tend to increase the numbers of half-skilled, so-called "practical" nurses who now impose on the public. I am inclined to think that the semitrained or untrained nurse whose prestige in the community depends on a small stock-in-trade of technical terms and "hospital" tricks will not be so much in demand if these simpler things, such as bed-making and temperature-taking, become matters of common knowledge. If any school child can apply a sling or a roller bandage, a first-aid certificate will not serve so easily as a passport to war hospitals. On the other hand, it has been proved that when people get a little insight into the difficulties and dangers that attend more advanced forms of treatment, and some appreciation of what real nursing skill involves, the respect for professional work is increased rather than diminished, and they are less likely to assume recklessly such responsibilities. There is no doubt that such courses, skillfully handled, will serve also to attract into the profession many high school and college women who would otherwise never think of this field of work.

Of course, every nurse is teaching "home nursing" whether she is aware of it or not. Every patient who leaves a hospital carries with her new standards of bed making and cleanliness and the administration of medicines and common treatments. Every mother who sees the visiting nurse or private nurse bathe her baby and prepare its food and who follows her directions in the necessary treatment and care is having a very practical course in "home nursing." The neighbors get it, too, with excellent and far-reaching results. Whether we like it or not, there we cannot escape our teaching function, which is part of the business of being a nurse. If we ignore or shelve it, some other person will step in to satisfy the demand.

In order to get various points of view on these matters, and to balance up my own observation and experience with that of others, I have gathered together the opinions of a number of representative teachers, physicians, nurses, and other citizens, which will be summarized in the discussion following. To begin with, practically every person consulted agrees that there is a distinct need for instruction in home nursing, first aid, and the care of children, and that some place should be found for it in the regular scheme of education. One or two disapprove of home nursing unless nurses are to act as instructors, and one or two would confine such instruction to especially selected groups.

The general aim would be to meet every-day needs so far as health is concerned, in a practical and efficient way, to help people to act intelligently and promptly in emergencies that threaten life and death, and to develop a sense of social and civic responsibility for community health, and for the care of those who are ill. A few, mainly teachers, suggest that such courses should also help in preparing specially qualified girls to act as children's nurses, mothers' helpers or convalescent nurses. This vocational type, of course, will be discussed later, but in the meantime we will speak only of the education which would be suited to the general public.

It is assumed by those who are familiar with the school system that the teaching of hygiene will have been begun in the kindergarten and continued up to about the sixth grade in the form of incidental and informal teaching rather than through set text-books and exercises. By the time the child is 12 years of age he should have formed habits of personal cleanliness and care, and should know something of the essentials of home and community health. At the age of 13 or 14 many children will be helping at home in the care of younger brothers and sisters, and often will be depended on for much more responsible duties in cases of a mother's illness or special family emergencies. A few of those who replied feel that this condition of things is abnormal and altogether undesirable in the interests of free, unhampered childhood, and that the school curriculum should not seem to encourage the employment of children in such home labor any more than they would countenance factory labor for young children. Others say that the child of 13 or 14 has not yet reached the psychological stage where even an elementary knowledge of infant care and home nursing is of any interest or value to her, that we must wait till later adolescence when she will have a better basis both in experience and understanding to build on, and when she can apply her knowledge with less chance of injury to herself and others. It seems to be the consensus of opinion, however, that since the vast proportion of elementary school pupils never reach the high school, if they are to have any systematic instruction at all it will have to come before they graduate from the common school. Moreover, among our great foreign population particularly, the only way to reach the parents seems to be through the children, and the authority of the school helps to secure a readier hearing for the facts we wish to carry into the home. It is suggested that special classes (such as "little mothers' classes") might be held for those who really need this instruction early, leaving the regular instruction till high school age at least; but this would mean that only a small fraction of the school population would be benefited and these only girls who are actually in charge of small babies. Several who are familiar with the school situation say that it is perfectly possible to select a few essential things which can be grasped by seventh and eighth grade children, and to incorporate them in the regular course in hygiene, or in the course in domestic science (which, however, reaches only the girls). It is suggested by several that boys and girls should be taught separately, modifying the subject-matter to suit their special needs and interests. It is frequently insisted that whatever is taught should be given in a concrete and practical way, and that the pupils should actually carry out the things they are taught to do. Most feel that it is unwise at this stage to bring in much formal teaching

of physiology and anatomy, but such fundamental facts as are necessary to explain and emphasize the right methods of doing things can well be brought in incidentally. I have seen courses in infant hygiene arranged for seventh and eighth grade pupils which, with some modifications, would not seem out of place in a nursing or medical curriculum, and such courses are far more likely to be arranged by nurses and doctors than by school teachers.

Instead of formal topics, such as "Infant Feeding" and "Common Diseases and Disorders of Childhood," the school child should be considering some such concrete problem as "how to help in keeping the baby well in summer," or "how to help when there is sickness at home." The ordinary matters of bathing and dressing, and sleep, etc., both for the baby or the slightly ill person, might equally well be discussed when the regular hygiene lesson is taught. The making of a bed for a sick person, and keeping the room fresh and clean, the cooking of a few simple invalid foods, and the methods of making people comfortable in bed—these are not complicated or technical matters, and can well be grasped by seventh and eighth grade pupils. "The principles of asepsis" sounds alarming, but there is no reason why any intelligent child should not know the harm that comes from dirt in cuts and burns, and how to put on clean dressings and keep them on with simple dandages. There is no need to enter into lengthy discussions on diseases or treatments, but it is important that everyone should be made to feel the need of isolation and prompt care when certain symptoms appear, and that they should know where to go for advice and treatment. We can use the lessons of the tuberculosis campaign which was waged, not always wisely, to avoid the harrowing and morbid type of "health" teaching, while retaining the measures which bring effective results.

It seems to be the general opinion that in the elementary school this teaching will have to be handled largely by the grade teachers, since, even where school nurses are employed, it would be impossible to take their time from their more pressing duties. It is generally admitted that the grade teacher lacks specific information, that she rarely knows how to do the commonest of these things herself, and that the "talk" method usually employed in such subjects is not only useless, but often ends in a lack of respect for the subject and in serious misconceptions. The domestic science teacher (if there is one) is usually little better prepared in the technical side of the work, and speaks with no more authority, though she is far more likely to make the subject concrete and practical, because that is her way of teaching. Doctors or nurses often make the mistake of giving technical lectures instead of using the far more natural and effective method of discussion and demonstration. Their message comes with more weight, but they have not usually mastered the technic of teaching sufficiently to have it carry over. Sometimes the teacher and nurse work together very effectively, and this seems to be the most satisfactory method to use in these elementary courses, until teachers generally can learn these things as they are now learning the elements of agriculture and household science, or till the staff of school nurses is enlarged sufficiently to allow for regular teaching duties.

Toward the end of the high school period, when the girl has covered some elementary work in science and has reached a stage at which she may safely be entrusted with wider knowledge and more responsibility, the consensus of opinion is that a second course should be given which would be based on good, sound physiology, with some knowledge of bacteriology, sanitation, and dietetics. Whether this course is called "Home Care of the Sick" or "Home Economics" or "Applied Biology" does not matter so much; but it *is* important that the information given should be soundly scientific, and that any procedures taught should be actually carried out in as careful and thorough a manner as possible. Such a course might include any of the more elementary nursing procedures that are usually taught to probationers in their first few weeks; the planning, furnishing, and care of the sick room, the making of a bed, devices for comfort, bathing and attention to ordinary physical needs, the giving of medicines, and common treatments, such as a simple enema and a mustard plaster, and cold and hot applications, the observation of important symptoms, and first aid treatment in fractures, sprains, cuts, burns, and common injuries. The purely theoretical course is inadequate here, as it would be in drawing or music or domestic science. The purely practical course which teaches only the *ways* of doing things is equally futile, and perhaps more dangerous because it is so easy to learn the trick of doing things without learning how and why they are to be used.

The primary object, however, is to make the pupil understand and appreciate the whole problem of sickness, not only as it affects her and her home, but as it affects the community state. This is the time to show her the results of ignorance and quackery and to give her sound facts regarding the various causes which produce ill health, and the measures which have proven most effective in safeguarding human life. All of this can be made concrete and dramatic, supplemented by actual studies of conditions in her own community. If the much-despised subject of sex hygiene is to be taught, there is no place where it can be brought in more naturally than in such a course as this; but the really general prejudice of parents against such teaching has to be considered.

The care of normal children can be included as a branch of home nursing and first aid, or be given separately. It would, of course, take up the physical requirements of the child, the surroundings and routine daily care, clothing, feeding, sleep, exercise, etc., and the management and training of young children. They should be familiar with the appearance and behavior of a normal, healthy child, and know the symptoms which indicate a departure from normal, and common measures to employ in slight or sudden illness.

Finally, any course of this kind given to high school girls should give them a clear idea of the difference between amateur and professional nursing, and the modern developments of both medical and nursing work. I find that they are much impressed by a sketch of the history of nursing and by the always thrilling story of Florence Nightingale. I usually take them to visit a hospital and point out the elaborate precautions that have to be taken and the complicated services employed in caring for sick people. This serves two purposes: it awes them and impresses them deeply with the highly technical nature of a real nurse's work, and it also shows them the vocational possibilities in nursing in a concrete and usually attractive way. I have never taken a group of girls to a hospital without having a number of confidences about such secret ambitions on the way home. It must be remembered that girls of this age are highly impressionable and extremely susceptible to "horrors," and that anything that is morbid or sensational should be strictly avoided. Health rather than sickness should be emphasized. This is one very general objection to the teaching of doctors, and sometimes nurses, that they get carried away by the enthusiasm of their classes and indulge their thirst for morbid details

far beyond the margin of safety. Another rather strange comment which I have heard of the teaching of nurses, particularly in infant hygiene, is that they are inclined to be sentimental and do not tie their teaching up directly to the home life of the pupil. I could only explain this by assuming that the nurse was doing her best to follow what she thought was the regular class-room method.

Poor teaching, an unwise selection of subject-matter, a superficial or purely academic presentation, or, on the other hand, a course that is merely hand work and nothing else—these are mentioned as the main dangers and difficulties to be avoided. Bungling work would upset confidence in such a subject and it would be speedily replaced by some other course. From our own point of view the greatest danger is that of inaccuracies and misconceptions creeping in, and the possibility of students assuming responsibilities which they are not competent to perform. This is more likely to occur where the teacher is not a graduate nurse. Students of such courses have told me that they studied out of Maxwell and Pope and could pass a complete examination on it, also that they had taken up quite fully the nursing of typhoid fever or pneumonia and the preparation of a private house for operations. It is quite possible to teach any bright class all that is contained in the average nursing text-book, but it is not safe or practicable, because the pupil has no background of experience into which she can fit her facts, and she is not prepared to give the necessary time for observation and practice under supervision, which alone would render her competent to apply her knowledge. On the other hand, there are certain serious conditions which require immediate action if they are to be helped at all, and rather than teach pupils first aid by rule, I feel that it is safer to explain the condition that is present as simply, but as clearly as possible, and to take the risk of amateur assistance rather than to leave a person absolutely helpless in the absence of a physician. The justification for teaching early care in fractures, hemorrhage, shock, and poisoning, etc., is that lives are actually saved, in spite of some inevitable bungling. It is a choice of two evils. The problem of the normal or college course in home nursing, first aid, and the care of children is very similar to that of the high school, except that here we can usually depend on a wider experience, greater maturity, and a sounder scientific basis. College women are not entirely free, however, from many of the traditional superstitions that affect other people, and they often need, as well, the most practical and elementary kind of instruction, with extensive reviews and applications of physiology, bacteriology, and hygiene. One of the most serious charges against the education of the present age is that a girl may run the whole gamut of the elementary and secondary schools, even normal school and college, without knowing anything of physiology and with no practical knowledge of hygiene.

I believe that a good course in physiology should be required of all those who take the course in home nursing in high school, normal, or college. If possible, courses in hygiene and sanitation, in bacteriology and nutrition should also precede this work. This does not mean that this course is to be advanced, but it does give it a scientific basis, which helps to command respect and makes it safer and of more value. While the ground covered need not be essentially different from what is given in the high school, the college course should go further along social and economic lines, considering the history of nursing as a social movement, the advances of modern medicine, and all the newer preventive and educational movements connected with infant welfare, and the conservation of human life. Such women should be valuable recruits in extending and advancing the work of hospitals and dispensaries, visiting nurse associations, and nursing education. Many of them could be interested in nursing as a profession, and they will at least know what such work represents.

These three age groups—elementary school, high school, and college—would cover the main types to be considered. Of course, every class is different, and subject-matter and method will both have to be adapted to meet the needs of individual groups.

Desirable as it might be to secure the cooperation of hospitals and dispensaries and day nurseries, etc., in giving the practical side of such courses, it is rarely possible because groups are fairly large and schedules are more or less rigid. The work will have to be done largely in the school or college building, with a simple equipment for demonstration, or, if at all possible, a well-equipped laboratory where each member of the class can carry out each procedure. The cost of such an equipment will depend on the number of students in the class and the method employed. It might range all the way from $50 to $300. The lecture and demonstration can be carried on with a class up to about 40 members, but for practice the number should not exceed 12 to 16, or at most 20. For demonstrations it is best to secure a "live" patient or subject, but a large doll can be used fairly satisfactorily for many procedures. Students usually use each other for subjects as far as possible, though this has its disadvantages because so much time is likely to be wasted. A two-hour period is almost necessary, and in many cases a three-hour period is not too long. Fifteen such periods constitute a fair time to devote to a course in home nursing and first aid.

It is not necessary to repeat procedures here to the point of high proficiency, since the purpose is more to enable the pupil to grasp the idea of the thing and to apply the principles taught rather than to develop skill. A simple text-book on home nursing, such as that which is published under the auspices of the Red Cross, is helpful if the teacher is inexperienced, but a more satisfactory way is to assign readings from a variety of sources and have pupils take notes on the nursing procedures. Frequent quizzes are needed to clear up misconceptions and fasten important facts in mind. It is well to have reviews of the practice work from time to time during the course. If the pupil is to keep her head in emergencies and carry out the necessary measures promptly, she will need to have some practice in responding quickly to varied situations. This has to be done altogether by "make-believe," but it is possible to reproduce some situations fairly well in the class room if one has some dramatic instinct to fall back upon.

The question of who should teach these courses cannot be settled arbitrarily, so much depends on where the course is given and the people who are available. It is generally recommended that physicians should teach first aid, since this is a form of amateur medical practice. Courses in the care of children are given by domestic science teachers, by physicians and nurses. I would be inclined to say that for very elementary courses the teacher who has had special instruction in the hygiene and care of children could quite safely teach the subject, her work being supplemented perhaps by one or two talks by the school nurse. The high school course and the college course demand a wider knowledge and greater skill, and, on the whole, would be more satisfactorily handled by a woman physician or a nurse. Home nursing I would consider a purely nursing question, and ordinary first aid can very well be included in such a course. If there is a school nurse or a resident

nurse in a school or college dormitory, she would seem to be the logical person to teach the subject. But in spite of greater interest, larger experience and skill, and the fact that she should be more closely in touch with all the latest methods and theories in this special field, the teaching of either doctor or nurse is not likely to be acceptable to school or college people unless they can come into line and follow the accepted principles of good teaching. There is no doubt at all that if we had enough trained teachers ready, we could go to school boards everywhere and ask to have such courses as these introduced into the curriculum and given by trained nurse teachers. The schools are ready for such courses, but they need the advice of some authoritative body to say how they should be developed. Some tragic mistakes have already been made, because no one was interested enough or wise enough to get in the right word at the right time.

Vocational courses in nursing have been started in several schools, with the idea of training convalescent nurses, nurse maids, or attendants. Some of them have assumed alarming features, and at best they have been futile and wasteful attempts so far as any serviceable training is concerned. We have worked so long at the business of training nurses, and our principles are firmly enough established by this time for us to approach even education boards and a question like this with some assurance. If attendants or convalescent nurses are to be really trained, they must have a practice or training ground, and the school cannot supply anything equivalent to a hospital or day nursery or convalescent home, which can be used as a laboratory. It is possible that some affiliation between these institutions and schools might be worked out, but it is perfectly plain that the plan must be formulated with great care and that school men cannot do it alone.

It seems to be clear that this whole situation needs careful consideration and that we as nurses must agree upon some definite policy which can be recommended to the many who inquire. Our recent affiliation with the National Educational Association gives us an excellent opportunity to get before that influential body our point of view so far as it concerns the school. Would it not be wise to have a representative committee from our three national organizations, working on this question; and to have it confer with representatives of other bodies who are most vitally interested, and make a report to us next year? Outlines of the various types of courses that might be recommended could also be worked out. I would remind those who are teaching such courses that an excellent outline of home nursing was prepared some years ago by a special committee on home nursing, and published in the League report.

A tuberculosis nurse, in beginning work, must arm herself with two characteristics for daily use—hopefulness and patience. Without the former she will find her work too depressing; without the latter hope will soon die, for there is so little of visible success except as a survey is taken covering a period of months or years. In entering the tuberculosis field there is one point which she must bear constantly in mind: that, although she deals largely with the individual, her problem is a community problem. Though she cheers and nurses the patient, though she procures aid for his destitute family, though she preaches far and wide the doctrines of healthful living, she will have barely touched the problem unless she prevents the spread of infection.—Mary S. Gardner, "Public Health Nursing."

PREVENTION OF BLINDNESS MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,
Secretary of the Illinois Society for the Prevention of Blindness; Chairman of Committee on Social Hygiene of the American Nurses' Association.

Please address items of news and inquiries regarding Prevention of Blindness—Maternity to the editor of this department, 30 North Michigan Boulevard, Chicago.

The Prevention of Blindness in Ohio[1]

BY HELENA R. STEWART, R. N., State Supervising Nurse, Division of Public Health Education and Tuberculosis, Ohio State Board of Health, Columbus, Ohio.

The Ohio law for the prevention of blindness from inflammation of the eyes of the newborn was passed by the legislature on May 19, 1915. Under the ninety-day referendum provision of the state constitution, the act did not become effective until Aug. 20, 1915.

The Survey, Sept. 4, 1915, said, commenting on this law: "One of the most advanced measures ever enacted in the United States for the prevention of blindness was enacted by the Eighty-first General Assembly of Ohio." Credit for the passage of the law is due to the Ohio Commission for the Blind. It prepared the bill on the basis of the model drafted by the American Medical Association, and it became a law with very slight amendments.

Previous efforts on the part of the state to deal with the general phases of blindness may be briefly summarized. In 1892 a law was passed requiring every midwife, nurse or relative in charge of an infant less than 10 days old to report in writing within six hours to the family physician or local health officer any inflamed, swollen or unnatural discharge of the eyes. A penalty of fine or imprisonment, or both, was provided. On May 9, 1908, the Ohio Commission for the Blind was created by the legislature to "act as a bureau of information and industrial aid, the object of which shall be to assist the blind in finding employment and to teach them industries which may be followed in their homes" and "to make inquiries concerning the cause of blindness to ascertain what portion of such cases are preventable and to cooperate with the State Board of Health in the adoption and enforcement of proper preventive measures."

Distribution of prophylactic outfits to physicians and midwives was begun on Sept. 15, 1910, by the State Board of Health. Trachoma was made a reportable disease by a regulation of the State Board of Health on March 2, 1911, and a similar ruling was made concerning ophthalmia neonatorum on Jan. 22, 1913.

The first section of the law under consideration defines inflammation of the eyes of the newborn as "any inflammation, swelling or redness in either one or both eyes of any infant, either apart from or together with any unnatural discharge from the eye or eyes of such infant, independent of the nature of the infection, if any, occur-

[1]Read at the Fourth Annual Convention National Organization for Public Health Nursing, New Orleans, La., May 2, 1916.

ring any time within two weeks after the birth of such infant." The second section makes it the duty of any physician, midwife, nurse, maternity home or hospital of any nature to report to the local health officer such condition within six hours after its discovery. The local health officer has certain responsibilities placed upon him by the next section, which requires that he investigate each case that may come to his attention; that he report all cases and results of investigation to the State Board of Health; and that he conform to the rules and regulations adopted by the State Board of Health. Section 4 makes it the duty of the State Board of Health to enforce the provisions of the act; to adopt rules and regulations; to provide for the free distribution of prophylactic; to provide daily inspection and gratuitous treatment when necessary; to publish information concerning the dangers of inflammation of the eyes of the newborn; to furnish copies of the law to physicians and midwives; to keep a proper record of all cases reported to it and to report all violations of the law to the State Medical Board and to the local police or county prosecutor. Section 5 requires the use of some prophylactic by the physician, midwife or other person, where the birth occurs in a maternity home, hospital, public or charitable institution, while Section 6 makes it mandatory upon midwives to use, in every case of childbirth which they attend, such prophylactic as may be required by the State Board of Health. Violation of the provisions of the law are punishable by a fine of not less than $50 nor more than $100 for the first offense, and for each subsequent offense by a fine of not less than $100 nor more than $300.

The sum of $5,000 a year was appropriated for two years to the State Board of Health to be used in the enforcement of the law. All necessary expenses which are incurred in the prosecution of a case for the violation of the law are paid for by the State Board of Health out of this appropriation. All fines recovered in such prosecutions are paid into the state treasury for the use of the State Board of Health in the prevention of blindness work.

It is further provided that a fee of 50 cents is to be paid to any physician, midwife, nurse, maternity home, or hospital for reporting in prescribed form each case coming to their notice of inflammation as defined by the law to the local health officer.

Responsibility for the enforcement of the law was placed by the State Board of Health with the Division of Public Health Education and Tuberculosis because of the fact that the public health nursing service of the department was in this division. The first step taken was to supply every health officer, of whom there are 2,150, with the necessary blanks and with the rules and regulations adopted by the State Board of Health prescribing the course to be followed by the health officer in submitting to the division the results of his investigation. In addition, letters of instruction were sent them briefly explaining the necessity for prompt and thorough investigations. These letters stated clearly that the health officer is expected to telephone or telegraph immediately, at the expense of the state, to the State Department of Health if his investigations indicate a necessity for nursing care for the baby, or the need of his securing additional instructions. A supply of special envelopes was provided each health officer, which were addressed to the Division of Public Health Education, and marked "Prevention of Blindness." These serve readily to identify reports of cases and investigations in the mail, and call for immediate attention as soon as received at the offices of the department. A copy of the law, together with a book of uniform report blanks and instructions for use in submitting required reports, was also sent to the 8,000 physicians, 3,000 nurses, 547 midwives, and several hundred maternity homes and hospitals.

In order to provide for the gratuitous distribution of a scientific prophylactic for inflammation of the eyes of the newborn, outfits containing tubes of 1-percent solution of silver nitrate, together with droppers and directions for use, are placed at the distributing stations of the Division of Laboratories. There are 291 such stations with at least one in each county. Outfits can also be obtained direct from the Division of Laboratories. On account of the expense it was found to be impossible to send these outfits direct to each physician in the state. We did supply every midwife known to us outside the large cities. We also sent a letter to each midwife, explaining the requirement of the use of the 1-percent solution of silver nitrate as a prophylactic.

To provide gratuitous treatment to any case, when necessary, the State Board of Health has employed a public health nurse, whose duty it is to go to such case upon the request of the local health officer. In addition, the Ohio Commission for the Blind employs six nurses who are available for such duty. Local nursing services are obtainable by the health officers in 47 cities and 9 counties where some 365 public health nurses are at work. We have been able to send or supply a nurse in answer to every call which has come to us up to the present time. As an illustration of the amount of work being done, the public health nurse in the State Department of Health began her nursing work on November 20, 1915, and up to April 1, 1916, she had attended 14 cases where her services were actually needed. In 6 of these cases she placed the mother and baby in hospitals for treatment; in 2 cases she placed the baby in a hospital, and in 6 cases she gave home nursing care covering from 2 to 7 days each.

In the period from August 20, 1915, to March 31, 1916, there have been 576 cases reported to the State Department of Health. The case reports by months are as follows:

August (11 days)	17 cases	January	108 cases
September	26 cases	February	96 cases
October	42 cases	March	109 cases
November	80 cases		
December	98 cases	Total	576 cases

These reports have been received from 63 of the total 88 counties in Ohio. These 63 counties contain practically four-fifths of the population of the state. The 25 counties from which no reports have been received as yet are in almost every instance those in which there are no large cities; where proper medical attendance is hard to secure, and where there is no public health nursing service.

It takes much time and repeated effort to secure from the local health officer a final investigation of each case reported. But at the end of March we had on file 351 completed records. A completed record means one in which no essential item of information is missing. Nursing care has been supplied in 252 of the total 351 cases reported. Of these 351 cases, 181 are male and 170 female infants. Only 19 of the total number are colored—8 male and 11 female. The ages of the babies at the time of reporting the inflammation range from 1 to 45 days, and may be classified as follows:

	Under 4 days	4 to 15 days	15 days and over	Not known	Total
Female	44	92	26	8	170
Male	49	97	17	18	181
Total	93	189	43	26	351

The use of the prophylactic in the 351 cases is reported as follows:

	Used	Not used	Unknown	Total
Cases reported by physicians	141	40	15	196
Cases reported by midwives	95	5	1	101
Cases reported by nurses and others	34	12	8	54
Total	270	57	24	351

The indications of the causes of the reported inflammation of the eyes of the 351 infants under study are:

	Female	Male	Total
Reaction of prophylactic	47	57	104
Inflammation caused by micro-organisms	99	102	201
Undetermined	25	21	46
Total	171	180	351

In ten cases the inflammation has been reported as resulting in partial blindness, no cases of total blindness being recorded.

CASE 1.—Illegitimate baby. The only care the mother received in childbirth was that given her by an imbecile sister. No prophylactic was used in the baby's eyes. The case was found by a physician when the child was 9 days old, and was then reported. Nurse and hospital care were secured, but the inflammation resulted in total blindness of the right eye and partial blindness of the left eye. Examination of a specimen showed the presence of gonococci.

CASE 2.—Midwife failed to use silver nitrate at birth and failed to report condition of inflammation. She claimed to have used boracic acid at birth. The result of the inflammation is total blindness in right eye and partial blindness in left eye. The facts in regard to this case were given to the county prosecuting attorney and the case is to be presented to the grand jury.

CASE 3.—Physician failed to use a prophylactic and failed to report the case until fourteen days after the beginning of the inflammation. No specimen was obtained. There is total blindness in one eye. The State Board of Health presented the facts in this case to the county prosecuting attorney. The physician was indicted by the grand jury and pleaded guilty. He was fined $50 and costs, but the fine was suspended.

CASE 4.—Baby was born in large municipal hospital, and silver nitrate was used in the eyes at birth. After thirteen days an inflammation set in and was properly reported. The specimen showed the presence of gonococci. There is total blindness of the left eye from a perforation of the cornea.

CASE 5.—No prophylactic was used at birth. The physician in attendance reported an inflammation of the eyes when the baby was 7 days old. Not realizing any danger, the health officer (a physician) delayed the investigation and notification of the case to the State Board of Health. A nurse was immediately sent to the baby, but treatment was too late to prevent total blindness in the left eye and partial blindness in the right eye. The specimen showed the infection to be gonorrheal.

CASE 6.—The physician claimed to have used argyrol in in the eyes of the baby at birth, but the nurse attending the case says that he did not, and that she called his attention to his failure to use a prophylactic. The physician failed to report the case and this was done later by the nurse, although there were two physicians treating the eyes. The specimen showed the presence of gonococci, and the infection resulted in total blindness of the left eye. The county prosecuting attorney was given the facts, but would only call the attention of the physicians to the necessity of reporting in the future. The local academy of medicine and the two physicians were notified that thereafter failure to report such a case would result in prosecution.

CASE 7.—The baby was 3 weeks old when the case was reported. It has been impossible to prove that the physician was treating or was aware of the inflammation while the baby was less than fourteen days old. A nurse was sent to the case and hospital treatment secured, but there is partial blindness in the left eye.

CASE 8.—No prophylactic was used at birth. Three physicians knew of the inflammation of the eyes and were advising treatment, but no report was sent to the health officer until a fourth physician was called, who reported immediately. A nurse was sent and the child taken to a hospital, but there is partial blindness of the left eye. Examination showed presence of gonococci.

CASE 9.—A physician was in attendance at birth. No prophylactic was used. A discharge from the eyes was observed the day after birth, but the physician said it was due to jaundice. He did not submit a report to the health officer until infant was 9 days old. The health officer (a physician) failed to investigate the case, merely forwarding the original report to the State Department of Health two days after its receipt. A second physician was called for the case and he, after some delay, asked for assistance from the State Board of Health. When the state nurse arrived, the baby's eyes were in serious condition, and the baby was taken to a hospital. Specimen showed gonococci. Three physicians, one the health officer, are responsible for the neglect which resulted in partial blindness of the left eye.

CASE 10.—The infant was born in hospital, and a prophylactic was used at birth. Inflammation developed about the ninth day. The hospital did not report the case to the health officer. Against advice, the mother left the hospital with the child. Another physician was called, who reported the case at once. The child later received hospital care through the efforts of the state nurse. Slight partial blindness of the right eye resulted, however.

Some of the further facts which an examination of the 351 records reveal is that there have been 103 physicians, midwives, and nurses certified for the 50-cent fee. In 43 cases the baby was over 14 days old, and in 26 cases the age was not specified, either one of which situations makes it impossible for us to certify the person reporting the case for the legal fee. Again, there have only been 106 microscopic examinations made in the total of 351 cases. This indicates that the average physician does not yet see the value of a laboratory as an aid in arriving at his diagnosis.

We feel that in this attempt to prevent blindness from inflammation of the eyes of the newborn we have made only a beginning. It will take time and perhaps a few prosecutions to make some of the doctors see the necessity of reporting their cases immediately.

When it is considered that we have 2,150 local health officers to instruct, and that many of them are not educated along this line, we feel that they have done remarkably well in submitting their reports, in making their subsequent investigations, and in asking for nursing care for the babies reported to them. At present there is only one nurse on the staff of the State Board of Health to be on call for these emergency cases all over the state. The large cities look out for the cases in their own municipalities and in the smaller cities where there are public health nurses, they have responded to the call and have given nursing care and, in some instances, taken the mother and baby to a hospital.

Without discussing the differences between the life of a person with sight and one with blindness, we feel that if this law is the means of saving the sight of only one child, our efforts, measured in terms of dollars and cents, will have been worth while. It costs the state approximately $10,000 to educate and maintain one blind dependent citizen. The appropriation for the work of prevention of blindness under this law is $10,000 for two years. If one baby a year is saved from blindness by the operation of the machinery set up under this law, it means that the state has paid out its investment, with a profit of 100 percent, and that every additional child saved is that much added to the profit of the state account.

Construction work will be started this spring on a new home for the Boston Lying-in Hospital, estimated to cost $300,000. The plans have been drawn by Architects Coolidge & Shattuck, of Boston.

THE MODERN SANATORIUM

Conducted by ALBERT WARREN FERRIS, A.M., M.D.
Saratoga Springs, New York.

Please address items of news and inquiries regarding The Modern Sanatorium to the editor of this department, Saratoga Springs, New York.

Obscurity of Disease a Spur to Success in Diagnosis

BY ALBERT WARREN FERRIS.

Recently there was founded in New York city an institution for diagnosis, a hospital into which patients shall be received to be studied till their diseases are understood and diagnosed, at which time presumably the greater number will be returned to their homes, or to their home hospitals, for treatment. Securing the keen scrutiny and differential criticism of the physicians on the staff of this institution will be like engaging the services of one or more consultants, but still better, for instruments of precision like the electrocardiagraph, and the facilities of the chemical and physiological laboratories will also be available.

The usefulness of and perhaps the demand for such an institution is a natural result of increasing dismay at the early decay or even death of thousands who should be in the prime of life, efficient and vigorous; of the desire to prolong life, and life without the discomforts of a diseased condition; of the belief that sometimes the family doctor does not know exactly what is the matter with the patient.

A layman of mental poise and discrimination, whose observation is well worth attention, points our gaze to what she considers a serious fault in our practice of medicine today, asserting that when a person who complains of being ill consults a physician, if the ailment is easy of diagnosis, it awakens lively interest; whereas, if a definite diagnosis cannot be promptly made, there is a tendency on the part of the profession to feel no interest, show little attention, and to minimize or even ignore the symptoms, and leave the patient unrelieved and dissatisfied. This attitude, she says, may also be exhibited even in a hospital.

This is indeed a grave arraignment of the medical profession. I have mentioned the technical and perhaps ultra-scientific physician who is interested in his case only till he has fathomed the mystery of the existing lesion to such an extent as to be able to draw it on the blackboard with colored chalks, and then shows not only a vanishing interest, but even a distaste for further contact, and fails to prescribe anything remedial. We all know many medical men who read little medicine, in either books or periodicals, never take a post-graduate course, and utterly fail to keep abreast of medical progress to the smallest extent. Who is at fault?

The medical field is forever widening. It is matter for thankfulness that medicine is not "an exact science." It is not a matter of embalmed opinion. It is a wide-expanding, deep-delving, far-reaching, progressive, and ever-changing science, because of constant augmentation and accession of truth; and those who profess it must strain every nerve to keep abreast of even one subdivision of the increasing mass of information.

The facts of malaria, not yet admitted in certain inland localities, though established in 1898 by Manson and Ross; the absolute facts of vaccination for smallpox, attacked by fatalistic medievalists to the complete astounding of those who know; the newer conceptions of that old scrap-basket, rheumatism; the new and generally accepted view of diabetes as a diminished functional capacity of the pancreatic islets, and its treatment as enunciated by Guelpa and set forth and elaborated by Allen; the physiology and pathology of the thyroid and the suprarenal and others of the "ductless" glands, and the modern uses of their derivatives; the detection of serious disturbance of the acid-base equilibrium of the body, known as acidosis; the relation of oral hygiene to general and local infections of the body, as, for example, arthritis—all these open up opportunities for more intelligent appreciation of conditions and new bases for daily practice of the healing art.

What shall we say of the physician who makes no physical examination, who uses neither the elementary thermometer nor the stethoscope, nor even the tongue-depressor; who does not analyze the urine; who prescribes for symptoms detailed in answer to unsystematized questions; who gives no dietetic directions? There are such persons, licensed to practice medicine, why ply their craft, guess at conditions, and order medicines. It is not only they at whom our critic justly carps, but also those who have no abiding, real interest in their work, though equipped and efficient.

The obscure case should be the one to excite deep concern; to stimulate insight; to challenge ability. Is the case one of neurasthenia or psychasthenia? Do phobias and dread fill the content of thought? What more satisfying to the practitioner than to "pluck from the memory a rooted sorrow, raze out the hidden troubles of the brain," and restore calm judgment by means of digestive and circulatory improvement, and perhaps psychoanalysis? Diet, exercise, and baths cause such rapid and permanent improvement in many neurasthenics that they should be very welcome patients in these days. Discovery of ptosis of viscera and its correction by means of a proper support or corset often exorcises forever the blue demons that formerly held their devilish sway. "It depends upon the liver," is still the proper answer to make to the old question, "Is life worth the living?" A marked reduction of animal proteids, the dropping of all meat and fish for a year or for all time, with sufficient intake of water and of bulky vegetables, has relieved many a patient who theretofore knew no greater enjoyment than to entertain that time-honored couple, nervous prostration and a trained nurse. A regular routine of simple exercises has emancipated many a patient from the slavery of indigestion and insomnia. Is it asking too much of the ordinary practitioner to cultivate and exercise the intelligence and insight necessary to a solution of the average obscure problem?

In all this matter, the greater duty and responsibility, because of the greater opportunity, rest upon the modern sanatorium. The chance for repeated and complete examinations of resident patients, the continual proximity under eye, the daily inspection and observation, the daily test of the medicinal efficiency, combine to give the greatest advantage in resolving the complex and unveiling the primarily mysterious. Still, is it not the duty of every practitioner to go as far with the same methods as may be necessary to reach a real diagnosis, and should he not, if too busy or too bored to give it genuine attention, refuse the case?

SOCIAL HYGIENE
VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary, The American Social Hygiene Association.

Please address items of news and inquiries regarding Social Hygiene to the editor of this department, 105 West Fortieth street, New York City.

Dispensary Treatment for Venereal Diseases in Lakeside Hospital, Cleveland, Ohio

BY MARGUERITE TUPPER, Assistant Social Worker, Lakeside Hospital.

At the Lakeside Dispensary all cases of lues in patients over 3 years of age are referred to the dermatological clinic for continuance of specific treatment. All children under 3 are sent either to the children's clinic or to the babies' dispensary for treatment. The dermatological clinic treats all acute and chronic lues, excepting the nervous cases, and also all other skin diseases. In the neurological clinic are treated old tertiary stages of lues affecting the nervous system.

In 1914 the social service department began systematically to record and to follow up every case of lues attending the dermatological clinic. Within eight months the staff of clinicians was doubled and the clinic was opened six days instead of three. A social worker is now

Fig. 1. Male examining room in the dermatological clinic of Lakeside Hospital.

stationed in the clinic, to whom every luetic patient must report with his chart after he has received his treatment. She then checks up the patient's visit and tells him when to return. No "vacations" are given to patients without instructions being received from the doctor. Dr. Cole, who is in charge of the clinic, tries to send every case of primary or fresh secondary lues to the City Hospital for at least two weeks' hospital treatment. There the patient generally receives three injections of salvarsan and is rendered noncontagious for ordinary contact with the public. Within twenty-four hours the social worker checks with the City Hospital upon these admissions. If the patient has not been admitted, a home call is made immediately and admission secured either through further persuasian or, that failing, through the efforts of the commissioner of health. The policy of the health department in these cases is to send a sanitary police officer, who threatens to placard the patient's door with a venereal disease poster. The City Hospital reports back to us the discharge of every luetic case which we have referred to them.

After the patient has passed the acutely infectious stage comes the long tug-of-war to impress upon him the necessity for continuing treatment and to reassure him in often repeated attacks of despair and anxiety. In dealing with these patients we keep three principles always in mind.

1. We assure the patient his confidence will not be violated. No diagnoses are given out without the patient's

Fig. 2. Male treatment room in the dermatological clinic of Lakeside Hospital.

signed order except to members of the medical profession, under ethical conditions, and when a report is justified in the interests of public health.

2. We arouse the patient's sense of responsibility to himself, to others whom he may have already exposed and to those whom he may expose unless he follows conscientiously and intelligently the doctor's instructions. We use a set of instructions, which are at present translated in five languages—English, German, Polish, Hungarian, and Italian—and we soon expect to add other languages, including Yiddish, Croatian, Servian, Roumania, and Greek. The social worker consults with the doctor about the necessity of every married patient and every patient whose disease is congenital, bringing in other members of the family for examination and, if necessary, for treatment. For patients who have exposed persons outside the immediate family we use the card originated, I believe, by the South Medical Clinic of the Massachusetts General Hospital. Persons presenting this card are entered by the social worker at the dermatological clinic instead of being referred to the general admission desk of the dispensary.

3. We try not only to help the patients to readjust their lives in relation to their present infection, but also to reeducate them along sex hygiene lines, so that when they shall be discharged as physically cured they may be better prepared to play their parts as normal members of society.

The occupation of every patient is recorded, and, if it is of a nature to expose the public, the patient is not allowed to resume it until in the doctor's opinion it is safe to do so. If after eight days' absence from the clinic the patient has not reported, a dispensary postal is mailed, asking him to return by a certain date, but with no clinic men-

tioned. In a few cases, in which stringent privacy is demanded, a personal letter is sent with a personal return address.

If three postals fail to get a response, a home call is made. If repeated calls fail, the case is referred to the health department for the attention of the sanitary police. Our health commissioner is giving us splendid help, and we try to call upon him only as a last resort in cases in which the prognosis is hopeful. Besides following the cases already referred to this clinic, the social worker sees that all patients having a positive or doubtful Wassermann reaction return to the dispensary.

Lakeside Dispensary makes a charge of $5 for a dose of salvarsan. Whenever, in the social worker's opinion, this should be given free, no charge is made. In other cases the price is adjusted to the patient's pocketbook, by either receiving payments on the installment plan, or with the doctor's sanction, allowing the patient to exchange three days' labor in the hospital workshops for his medicine.

We are slowly educating our patients to ask for letters to other doctors or other clinics when leaving the city. We have had splendid cooperation from these clinics whenever we have had occasion to require it. In the case of smaller towns and rural communities the opportunities for treatment are very meager, and often we can only select at random a doctor's name from the medical directory.

As yet the professional prostitute has generally eluded dispensary treatment. We hope that, in cooperation with the judge of our municipal court, there will soon be instituted a system of parole, insuring medical treatment for prostitutes lasting at least three months. We also realize the need of and hope soon to start a pay evening clinic for the treatment of gonorrhea and lues.

Although there are many transients and mental defectives upon whom we can make no impression, and although it takes anywhere from two months to two years to train some individuals to take regular treatment, we feel that the follow-up work for luetics more than repays the department for the energies expended, when one considers the enormous gain not only to the patient, but to the public in the protection that proper treatment insures.

The Saving of Fats

Probably the most neglected art in the hospital culinary department is the rendering, clarifying, and saving of fats. It is generally considered that the greatest waste in the average large kitchen is in the disposal of fats. In view of the present high cost of meats, and particularly of fats, it will be well for the hospital superintendent to consider the methods of rendering and clarifying fats described in Bulletin 469, U. S. Department of Agriculture. These are as follows:

The fat is cut finely with an ordinary meat chopper or sausage grinder and is then heated in a double boiler until completely melted. The melted fat is then strained through a rather thick cloth (medium fine huckaback, for instance) to remove the finely divided bits of tissue. The advantage of this method is that since the material to be rendered is finely divided the fat separates readily from the inclosing tissue at a temperature very little above its melting point, and there is no danger of scorching it, as in the older open-kettle method. This is of importance, since recent information shows that fats overheated in rendering do not keep as well as those which have not been heated too high. Also there is no odor of scorched fat in the room during rendering. After the fat is rendered it should be carefully heated to make sure that it is free from moisture, and sterilized. This method of rendering fat is entirely satisfactory when the quantity of fat to be rendered is fairly small. The difficulty of using it on a large scale would depend chiefly upon the labor and cost of grinding the fat.

Fats which have been saved when meats are cooked, or which have been salvaged in some other way, must usually be clarified—freed from objectionable odors, tastes, or colors—before being entirely satisfactory for culinary purposes. A common custom is to cook a slice of potato in the fat, and this may help if the fat is fairly satisfactory to start with. A fairly successful household method for clarifying fats is as follows: Melt the fat with at least an equal volume of water and heat for a short time at a moderate temperature, with occasional stirring. Let the mixture cool, remove the layer of fat, and scrape off any bits of meat and other material which may adhere to the under side. Rendering or clarifying fat with milk gives quite satisfactory results in modifying odors and flavors. The procedure is as follows: To 2 pounds of fat (finely chopped if unrendered) add one-half pint of milk (preferably sour). Heat the mixture in a double boiler until rendered or thoroughly melted, stir well, and strain through fairly thick cloth. When cold the fat forms a hard, clean layer, and any dark material adhering to the under side of the fat may be scraped off. Sour milk, being coagulated, is preferable to sweet milk, since the curd remains on the cloth through which the rendered mixture is strained and is thus more readily separated from the rendered fat, which has acquired some of the milk flavor and butter fat.

Undesirable odors and flavors can be decreased in intensity or removed, if not too pronounced, by heating the fats with a good grade of charcoal, and the method is applicable to fats which could not be satisfactorily treated by the method first spoken of. To each pound of chopped, unrendered fat add 12 pieces of clean, hardwood charcoal about the size of a walnut and render the fat in a double boiler, as described above. Allow the charcoal to remain in the melted fat for about two hours and stir the mixture occasionally. It is necessary to strain the fat through flannel or other closely woven cloth to remove all the fine particles of charcoal. Rancid odors, if not too pronounced, may be satisfactorily removed by this method. If the odor is very pronounced more charcoal is needed and the mixture requires longer heating. It is interesting to note that the characteristic yellow color of the beef fat may be removed and a white, odorless fat secured.

SPOKANE HOSPITAL BURNS

St. Luke's, Crowded With Patients, Is Almost Entirely Destroyed

St. Luke's Hospital, Spokane, Wash., housing 105 patients, almost the limit of its capacity, was reduced to ruins by a fire which broke out in the attic of the building about 6 p. m., January 21, at the time the evening meal was being served in the wards. By marked composure and fast work on the part of Miss Joanna Burns, the superintendent, her nurses, and others, all of the patients were safely removed to nearby homes, whence they were later taken to other hospitals. The city firemen arrived promptly, but were unable to stop the spread of the flames.

The building destroyed was valued at $120,000. One wing of the structure was practically new, having been erected three years ago at a cost of $70,000. Insurance amounting to $50,000 was carried.

Arrangements have been made to reopen the institution in temporary quarters, and plans are already being drawn for a $200,000 fireproof building, which the trustees expect to erect this spring.

Miss Ida Lusk, formerly of Bellevue Hospital, New York city, was appointed to the position of superintendent of the training school at the Allegheny General Hospital, Pittsburgh, Pa., in February, succeeding Miss A. L. Darling.

FOREIGN CORRESPONDENCE

War Hospital Notes

[Continued from February issue.]

A MOVABLE DISINFECTOR

A movable disinfector on a large scale has proved to be of great use, especially for the treatment of soldiers' blankets, in order to destroy vermin. It is on the principle of current steam at 212°F. without pressure, as worked out by Dr. J. C. Thresh some years ago. A solution of calcium chloride is used, which boils at 220° F. (=104° C.) and gives off steam at about 215° F. This is kept up for thirty-five minutes, after which a current of previously warmed air is passed in to dry the disinfected articles. The apparatus is carried on a motor lorry, driven by steam (instead of petrol), and consists of two large barrels, which can be used either together or separately, each having a capacity of 60 cubic feet, connected with the steam engine of the lorry. The power of this engine is diverted from locomotive to disinfectant action simply by cutting off the steam from the driving wheels and turning it into the jacket of the disinfector. It can, therefore, be brought into use directly it arrives at any spot where it is required. The rear wheels are fitted with solid rubber tires, and it is found that the mechanism is able to withstand the jolting over rough roads, provided the speed is not more than ten or twelve miles an hour. All the blankets of the battalion can be dealt with in two days.

THE WORK OF A FIELD AMBULANCE

According to regulation, a field ambulance is designed for the immediate medical assistance of troops actually engaged. Each is divisible into three sections—A, B, and C—which are capable of acting independently. Each of these sections again consists of a bearer division for the assistance and collection of the wounded, and a tent division for their reception and temporary treatment. The disposition of a field ambulance in action varies with the nature of the operations, but, as a general rule, the bearer division works in advance, the tent division forms one or more dressing stations, and the ambulance wagons work between the two. This presupposes a battle or engagement, or at least an "affair"—that is, a hostile action with a beginning, a middle, and an end. The present war is not confined to one country, nor even to one continent; it is, therefore, perhaps not extraordinary that, even in the details of field medical organization, there should be a departure from precedent. There have been battles of defined duration, but the bulk of the opposed forces in Belgium and the north of France have been for the most part engaged in trench warfare, without much variation in the hostile lines on either side. This siegelike state of affairs is practically without precedent on a large scale in modern warfare, as far as British troops are concerned, and has led to considerable modifications in the work of various units. Lieutenant-Colonel G. N. Stephen, R. A. M. C., has given an interesting account of the development that has taken place in the work of the field ambulances. In one case, instead of being constantly on the move (as the name implies), it became entirely stationary, and fulfilled the functions of a hospital for convalescents, a bathing establishment, and a clearing house for infectious cases. Another "ambulance" comprised an advanced dressing station, a rest station, a laundry, and a "respirator factory." The work in this last-named establishment was done by civilian labor, but under the management and charge of the medical officer of the field ambulance and his men. In a third instance a rest station and a bathing and laundry establishment were located in some farm buildings, and worked by the staff of a field ambulance. In a fourth instance three field ambulances were practically combined, in order to form two dressing stations, a convalescent hospital established in a permanent building and a large rest camp. This was certainly a varied scope of operations, and afforded turns of duty by which, as Lieutenant-Colonel Stephen puts it, "all shared in whatever was to be had in the way of dull work or exciting work, risky posts or safe posts, soft jobs or hard jobs." The "convalescent hospital" is not an official designation; the arrangements were those of a "clearing hospital" on a large scale; two large buildings were turned into hospitals or "rest stations." The patients were mostly men with slight ailments or trifling injuries, men undergoing antityphoid inoculation, men with pyrexia not apparently of a serious nature. The double purpose was fulfilled of (1) bringing possibly serious cases under regular treatment in the incipient stage, and (2) retaining cases that were likely soon to return to duty as near their units as possible.

ACHILLEION PALACE HOSPITAL, CORFU

On high ground at the northern end of the island of Corfu, in the most picturesque situation that can be imagined, a palace was erected some years ago for the late

Fig. 2. Achilleion Palace, Island of Corfu. General view.

Empress Elizabeth of Austria. After her death it remained vacant until 1907, when it was bought by the German emperor, who was struck by the exceeding beauty of the environment. The accompanying illustrations (Figs. 2, 3) give a faint idea of the character of the building and its surroundings. The palace has been devoted to the purposes of a military hospital, chiefly for wounded French and Serbian troops. This action by the Greek military authorities is stated to have, not unnaturally, displeased the German emperor. However this may be, the wounded troops of the allied powers are now being cared for on the

island made famous for all time as the scene of the shipwreck of Ulysses and of some of the chief events of the Peloponnesian War.

CONVALESCENT HOME FOR OFFICERS

The convalescent establishment at Cimiez, on the high ground above Nice, that was closed during the summer of last year, was reopened in November, and is now known as the Michelham Convalescent Home for Officers, the funds for its maintenance being provided by Lady Michelham. It is now classed as a regular military hospital, and is especially devoted to the care of officers suffering from wounds or injury to health due to service in the fighting

Fig. 3. Achilleion Palace, Island of Corfu. One of the porticoes.

line; chronic cases and those requiring much surgical attention are not admitted. The accommodation is for 100 patients, and the length of stay is limited to a month. The hospital is nursed by the Red Cross Society, but is officered by the Royal Army Medical Corps, and the matron is drawn from Queen Alexandra's Imperial Military Nursing Service. Each officer has a bed room of his own, but they mess together, and the wearing of uniform is compulsory. The comforts and surroundings of a Riviera hotel are combined with maintenance of military tone; and the genial climate expedites recovery. One must suppose also that the moral or psychical effect of such an environment, the beauty of the scenery, and the pleasant warmth (that is also dry and bracing in character, not enervating nor extreme) combine to have the best effects. The contrast with life in the trenches can be appreciated only by those who have experienced both modes of living.

ANGLO-RUSSIAN HOSPITAL AT PETROGRAD

A hospital was opened at Petrograd in the early part of the year, named the Anglo-Russian Hospital, established by a committee under the championship of Lord Cheylesmore, which also hopes to provide three field hospitals in places selected by the Russian military authorities, as a testimony of gratitude and admiration from the British to the Russian people. The hospital provides 200 beds with complete equipment, including an operating theater, x-ray apparatus, and bacteriological laboratory. It has been located in the palace of the Grand Duke Dimitri, and is under the command of Major A. M. Fleming, C. M. G., with a staff of nine physicians and surgeons, including a bacteriologist, an anesthetist, and a radiographer. The Dominion of Canada has shown its sympathy by contributing £10,000.

A Retired Army Officer.

CAREERS FOR YOUNG MEDICAL MEN

The Public Health Service Wants More Trained Medical Officers—An Attractive Field

According to a statement just issued by Surgeon-General Rupert Blue, young medical men between the ages of 23 and 32 will be given an opportunity each month to demonstrate their fitness for admission to the grade of assistant surgeon in the U. S. Public Health Service. There are several vacancies in the government's mobile sanitary corps, which is now in the 119th year of its existence, but in order to be recommended to the President for commission, a physical and professional examination must first be passed. As the tenure of office is permanent and the public health officers are ordered to duty in all parts of the world, they are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. Boards will be convened at Washington, Boston, New York, Chicago, St. Louis, Louisville, New Orleans, and San Francisco, but permission to take the examination must first be obtained from the Surgeon-General. The examination is searching, and includes, in addition to the various branches of medicine, surgery, and hygiene, the subjects of the preliminary education, history, literature, and the natural sciences. The commissions will be issued as assistant surgeon, and after four years of service, the young officers are entitled to examination for promotion to the grade of passed assistant surgeon, and after twelve years of service, to another examination for promotion to the grade of surgeon. The annual salaries are: assistant surgeon, $2,000; passed assistant surgeon, $2,400; surgeon, $3,000; senior surgeon, $3,500; assistant surgeon-general, $4,000. When the government does not provide quarters, commutation at the rate of $30, $40, and $50 a month, according to grade, is allowed. All grades receive longevity pay; that is, 10 percent in addition to the regular salary for every five years until the maximum of 40 percent is reached. When officers travel on official duties they are reimbursed their actual traveling expenses.

Don'ts for Organizers

First, don't quarrel with your town or county, don't criticize your public officials, don't take refusals to help as being personal affronts. Don't remember past refusals or past difficulties, don't worry, and don't fail to ask the same people the next time you need help. Don't get excited, don't allow your feelings to be harrowed by suffering or need in any direction, don't think that nothing can be done. Get ready before you start, don't fail to stop and look and listen before you do the next thing. Don't take up any work unless you feel that you can do it and make it go. Don't allow yourself to be a martyr or a failure. Don't fail to do the little things in a big, comprehensive, far-reaching fashion. Don't allow discussion in meetings of work that can't be done, or people who won't help, or officials who refuse to take your advice. Make suggestions, but reserve your judgment.—Chloe Jackson, Organization of Tuberculosis Work in Small Cities and Counties, Am. Jour. Nursing.

A hospital to be known as the Myra Hancock Pfeil Memorial will soon be erected at Clarksdale, Miss. Plans for the building are being drawn by Architect Charles O. Pfeil, of Memphis, Tenn., who is one of the principal donors.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

Dietetics in Ohio

In the January issue of THE MODERN HOSPITAL mention was made of the paper read by Dr. Upham before the Dietitians' Section of the Ohio State Teachers' Association. We now have the privilege of presenting this paper to our readers.

Dr. Upham, in behalf of the State Medical Board of Ohio, asked assistance in the solution of four problems which confront those of us who are interested in dietetics. These are being given attention by the dietitians of the state, and, judging from the interest manifested, something will be done toward solving them.

The result of the survey which Dr. Upham reports gives us specific information in regard to the kind of dietetic work being done in the state, which is evidently in need of attention.

We should be very glad to know what is being done in other states.

New York Dietitians Organize

The dietitians of New York city have at last organized. For some months they have been meeting informally at some of the larger hospitals. The field and influence of the dietitians is growing, however, and, realizing the increasing need of some central organization which will assist in standardizing their work, they have formed this association of dietitians. The moving spirits back of the enterprise are Miss George, of Mount Sinai Hospital, and Miss Speas, of Flower Hospital.

The breadth and scope of this association are refreshing. Not only are all things pertaining to diet and diet schedules presented to the members in the most approved fashion, but matters of general hospital interest are discussed.

At the last meeting Oliver H. Bartine, superintendent of Flower Hospital, outlined the remarkable work done by the hospital in the care of the victims of infantile paralysis during the recent epidemic. Thanks to the generosity of the board of trustees, the hospital early in the scourge threw open its doors to the little sufferers and assured them of every care that science could provide. The resultant low death rate and the remarkably high percentage of complete recoveries among the little patients admitted to the hospital will always stand as a shining testimonial to the unflagging care and unselfish attention given to them by the medical men in charge. Mr. Bartine gave a brief history of the epidemic, and particularly mentioned the work being done by the New York Committee upon the After Care of Infantile Paralysis.

Following Mr. Bartine, Dr. J. T. Simonson, head of the Chair of Pediatrics at the New York Homeopathic Medical College and Flower Hospital, outlined some rules for infant feeding. This phase of the work is one of the most important that the modern dietitian has to face, especially in view of the fact that so many of the newer hospitals are being equipped with large maternity and children's wards.

It is planned to have some one or more important and well-known persons address each meeting. Some of the speakers at the earlier meetings have been Miss Jane Delano, the head of the National Red Cross, and Professor Mary Rose, of Teachers College.

The New Pure-Food Catsup: or, When Is a Chemical Not a Chemical?

BY DR. J. A. WESENER, of The Columbus Laboratories, Chicago.

The preserving of foods for future use has been practiced by mankind from early times. The methods used for this purpose have been such as drying fruits and meats to remove the excess of water, and the adding of substances to them by external application, such as smoke, salt, saltpeter, and other substances, as in the preparation of meats by drying, smoking, and pickling. Vinegar and spices have been used in the preparation of foods and relishes for the table a considerable time. The purpose of these materials was to act as a preservative to the other ingredients of the food product, as well as to improve its flavor, because of their condimental value. In the preservation of food by the use of smoke there are introduced products which, when separated in the process of destructive distillation, are highly poisonous, and when taken in the concentrated form by man produce death. These substances include phenol and cresol, and others of like character.

Salt, although constantly used in the preparation of all foods and found to be an absolute necessity, is a preservative when used in excessive quantities, and was probably the earliest preservative in the preparation of such substances as meats and fish.

Later followed the use of saltpeter, which was, and is now, extensively used in the preservation of meats, such as corned beef, ham, and a long list of other products which are now put upon the market by the large packing concerns. The preserving action of saltpeter probably depends upon the change of the nitrate radical to the nitrite. At least this change always occurs during the process of preserving of meats by use of saltpeter. The red coloring which is imparted to corned beef, ham, etc., is brought about by the presence of nitrite reacting on the coloring matter of the meat.

Sugar is found as a natural preservative in such substances as dried raisins and other dried fruits, and is extensively used in the preservation of fruits and the making of jams of all kinds. It requires the presence of considerable sugar to bring about the complete preservation of the material, but lesser quantities contribute largely to this end, although complete fermentation and putrefaction is not prevented by it.

Vinegar has been used as an article of food from early times. It is used for two reasons: first, on account of its sour and agreeable flavor, and, second, because of its preserving action.

Spices were in use in biblical times; they are extensively used not only to improve the flavor of food stuffs, but to assist in preserving them against fermentation and putrefaction.

TOMATO CATSUP

Catsup is a name given to several kinds of sauces much used as a relish. It is made of several different substances, but the catsup most common in most markets of this country is tomato catsup, which is now so common that no table is considered complete without it. Although the tomato is supposed to be a native of America, it first found its use as an article of food from seeds which were brought from Europe. The plant was long cultivated as a curiosity before it was accepted as a food. Many were under the impression that, belonging to the nightshade family, it must possess poisonous properties. Of late its use as a garden vegetable has been gradually growing, and it is now perhaps one of the most common vegetables grown. Various methods of preparing this article for food are now common. It may be eaten raw, or it may be cooked for immediate use, or canned. One of its largest uses is in the preparation of catsup.

Catsup was formerly prepared solely by the housewife. The tomato was recognized by her as one of the most difficult substances to preserve, and there is hardly a person living who does not have some reminiscences of explosions which have occurred in the cellar by the fermentation of this variety of vegetable. The housewife's common way of preserving the catsup was by the use of sugar, vinegar, and spices, then the boiling and concentration of the product. The containers used were ordinary bottles, and these were filled and hermetically sealed while the finished product was still hot. They were then placed on shelves in the cellar. If no fermentations and explosions took place, the product was correctly made, and the housewife would then tell her neighbor the good luck she had with the catsup she made that fall. In case the product did ferment, bottles which showed this action were again worked over by boiling, more sugar, vinegar, and spices added, and then rebottled. Although the first preparation of the tomato catsup retained little, if any, of the tomato flavor, the second treatment of the fermented product removed any suggestion of the original flavor of the tomato. The concentration of people in large cities where they were no longer able to produce their own tomatoes and make their own catsup called for the manufacture of this product on a larger scale by those who could devote a great part of their time and attention to it, and arrange for the distribution to each household according to its needs.

On account of the element of luck which was always present in the household way of preserving catsup the manufacturer, by the aid of science, worked out a method which overcame all of the so-called luck in the preparation of this material. This was absolutely necessary to meet the new economic conditions which had arisen. This product had to be shipped long distances and remain on the shelf for months and years before it could reach the consumer. Any defects in its preparation entailed on him serious loss aside from the danger of the deleterious effect on the consumer from eating fermented and decomposed food. Catsup prepared by this latter process has numerous advantages. Aside from that of more thorough preservation, it retains much of its original tomato flavor. It is thinner and more conveniently removed from the container, and is commonly eaten by spreading it on the bread.

The essential point in this new method of preserving catsup was to introduce into it substances which assist in its preparation without in any way reducing or injuring its quality, or without adding any deleterious substance to the product itself. A natural preservative, which is found extensively in nature and which contributes to the long keeping of fruits, such as cranberries, plums, and some berries common to the old world, is benzoic acid, and what should be more natural than for intelligent business men and men of science to look to a preservative of this character to meet the special requirements which they found in the preparation of tomato catsup?

(To be continued.)

The Dasheen

Just now, when potatoes are commanding such a high price that we feel like striking them from our list of staple foods, it is gratifying to know that there is a very good substitute for them. The dasheen is a vegetable similar in food value and composition to the potato, which has recently been introduced into culture in the Southern states. It has not yet become common in our Northern states, but there seems to be no reason why it should not be cultivated more extensively than it has been.

The Bureau of Plant Industry has prepared bulletins giving information in regard to the cultivation and use of the dasheen, with several recipes also included. The following paragraphs are quoted from one of these bulletins pertaining to the use of the dasheen:

"While all of the tuberous growth of the dasheen is edible, the medium-sized or large tubers are especially adapted for use like potatoes. The corms are usually drier and more mealy than the tubers, however, and by many persons are preferred to the tubers for boiling or baking, but until a pure strain, free from the occasional objectionable quality elsewhere referred to, has been developed, the medium-sized tubers will probably constitute the principal value of the crop on the market. The corms do not usually keep as well as the tubers, and it is therefore advisable to utilize them as early as practicable after harvesting."

USES

"The corms, which sometimes reach a weight of more than six pounds each are usually of a quality fully equal to the tubers and are excellent when baked, though occasionally one is found that, even when thoroughly cooked, proves a little too firm to be palatable. It is believed, however, that this undesirable character can be eliminated by using for planting tubers from such plants only as produce corms of satisfactory quality.

"The corms may be converted into flour, which can be made into soups and gruels. Dasheen flour, when used with wheat or rye flour, makes most delicious griddlecakes, biscuits, and bread. The griddlecakes do not become heavy by standing. Some 3,000 pounds of flour were produced during the season of 1912-13 from 200 bushels of corms and tubers. This flour was used experimentally by cooperators in cooking and baking."

CONCLUSIONS

"From the interest that has already developed among southern farmers who have become even slightly acquainted with the dasheen, it seems probably that this crop is destined to be of great importance to that section of the country. It can be grown as a summer crop in a region where the potato must be grown almost entirely as a spring crop, for it ripens its tubers in October and furnishes them for the table at a season when northern-grown potatoes have to be shipped in, at prices relatively high except in seaports. It has been demonstrated that it can b grown with at least a fair degree of success in the irrigated sections of the Southwest. It is a good yielder, comparing favorably with the potato. If grown on well-drained land it is not injured, as the potato is, by unusually wet weather, and it is therefore suited for cultivation on lands where the potato would be a failure. Its culture on wet lands in the South where the water supply can be controlled by drainage or otherwise is a subject of further investigation.

"The young leaves, *when properly cooked,* can be substituted for spinach at a time when the weather is too hot to grow spinach. The blanched shoots obtained by forcing dasheen corms in the dark in a greenhouse or under other suitable conditions constitute an entirely new product, which is meeting with general approval. The nutty flavor of the tubers gives them a peculiar palatability, which has struck the fancy of many people. The higher nitrogenous and starchy content gives them an advantage as food that would seem to make the plant, when compared with the potato, an even more valuable food producer."

The Status of the Dietitian in Ohio[1]

BY J. H. J. UPHAM, Columbus.

My subject is a broad one and of great importance. It reaches out into the realms of economics, touching upon the conditions in every home and the community at large; into preventive medicine, as well as the treatment of the sick; it touches hospitals, their management, their cuisine, their therapy, and it is vitally concerned with the teaching of nurses in their training schools. This is no exaggeration, as doubtless all of you appreciate. In these latter days, when efficiency is the universal slogan, and results of effort are the criteria of success, the relation of foods to the production of energy is being scientifically investigated and estimated. It has been asserted from time to time that "as many ills come from overeating as overdrinking." If this could be changed to *improper* eating, I would not hesitate a moment to acclaim its truth. How many homes have been wrecked, how much unhappiness has been produced, how many actual crimes have resulted from this source, no one can answer.

The pangs of dyspepsia ruin the best disposition, distort the imagination and pervert the whole outlook on life; but to such mental and moral results are to be added no one knows how many cases of Bright's disease, arteriosclerosis, chronic gastric ulcers, even cancer, chronic constipation, cirrhosis of the liver, ptomaine poisoning, etc., which may arise from ill selected, badly prepared or improper quantities of foods.

In hospitals this subject raises the question of the selection and preparation of foods for very different classes of individuals; for the workers and attachés of the hospital, the executive staff, doctors, nurses and attendants, normal healthy individuals, for the most part, who should be so fed as to be kept in a state of high efficiency as an economic proposition, if for no other reason; then come various classes of patients, some recovering from the ravages of disease, who need a surplus of intake over waste to help repair the damages incurred; others still in the throes of fever, with excessive burning up of tissue, indicating the need again of a surplus intake; but with the disorganization of the functions there must be a nice adjustment of the amount and character of the food to the ability of the patient to take care of it properly; and still others with special diseases require special diets as the chief, and sometimes the only, therapeutic measure to be employed.

Added to this there is the supervision of the preparation of the food and the instruction of nurses as a routine part of the training. From all this the tremendous scope of this topic, and the multitude of problems it suggests are apparent.

As a member of the State Medical Board, which has, through its committee on nursing, the supervision of the training of nurses in the state, I would like to present only the subject of the status of the dietitian in the hospital and training school. While the board considers its chief functions to be educational, it is not narrowly pedagogic, and considers the dietitian not only in her position as an instructor to nurses, but in the broader relation as an important factor in the correct treatment of the patients from a diet standpoint, believing that the broadening of her scope enhances her value not only to the patients and the hospital, but also as a teacher believing, in other words, that the observation by the nurses in the wards of the dietary regulations of the patients will emphasize and drive home the teaching of the dietitian in their classes.

The laws of the state in regard to the established requirements provide:

> SECTION 7. The examination of applicants for certificates to practice nursing shall be conducted under rules prescribed by the State Medical Board. Each applicant shall be examined in anatomy, physiology, obstetrics, bacteriology, hygiene, materia medica, *dietetics*, practical nursing and such other subjects as the board and committee may require.

The rules regulating the carrying out of the law, as adopted by the board, merely require as a minimum that each student shall be taught diet cooking for the sick, including at least twelve lessons in cooking with a competent diet teacher; and also that they shall be taught food values and the feeding of special cases, and that this teaching shall be done in classes with practical work rather than by lectures. Fortunately, the wording of the law allows the state board considerable latitude; while it imposes an obligatory minimum requirement, it leaves to the board discretionary powers as to what constitutes an acceptable school, and how to define the term "competent diet teacher." This has worked out very satisfactorily in other directions; for example, in medical colleges, where, with a statutory minimum requirement for entrance, we, with the cooperation of the medical schools, have been able to elevate the standards so that now we do not recognize anything less than two years of college work. The board is anxious to standardize the teaching of dietetics in a similar manner, and to do so it must have the cooperation of the hospitals and that of the dietitians of the state; as an aid to this I feel sure that the expression of the opinion of a body such as the Dietitians' Section of the Ohio State Teachers' Association would be of great practical value, and would have the respectful consideration of the board.

Our first survey of schools applying for recognition shows twenty-eight hospitals with resident, graduate dietitians; one hospital with resident, non-graduate dietitian; five hospitals with non-resident teachers of dietetics; three hospitals having Sisters of Charity acting in this capacity; and thirty-seven hospitals without any dietitian or any preparation for teaching dietetics. Since the passage of the law referred to, diet schools are being added to the teaching equipment. Hospitals have found this a great deal easier to do than to provide competent diet training in hospital work, and thus far positions are hard to fill satisfactorily. Such a position presupposes a graduate dietitian who has acquired some hospital experience under a regular hospital dietitian; also some ability as a teacher.

Thus you see that conditions are somewhat chaotic; there are practical conditions in the hospitals to be considered which cannot be arbitrarily treated, although they must rank secondary to the welfare of the patients and the proper instruction of the pupil nurses if these institutions wish to be recognized as acceptable training schools. In addition, the science of dietetics is an actively evolutionary stage; the investigation of biochemistry and the relations of foods to energy production, to metabolism and to diseased states are yielding so many important data that what is acceptable teaching today will be faulty tomorrow, so that time, patience and diplomacy will be necessary before many of these problems, which are at present so complex, can be solved satisfactorily to all concerned. In order, however, to bring something concrete to your attention I would like to present for your discussion three or four problems in the hope that you may assist the board in establishing a proper status for hos-

[1]Read before the Dietitians' Section of the Ohio State Teachers' Association.

pital dietitians, and elevate the teaching of dietetics to its proper plane.

First: What is the proper amount of instruction to be given student nurses? I feel that the minimum requirements as already quoted are far too low. I do not see how any more than an elementary, or even rudimentary, knowledge could be acquired in such a course. Doubtless it is supposed and intended to be supplemented by practical application of the principles in the wards, but I am quite certain, unless this is specifically required and checked up, in the busy ward life and multitudinous other duties it will be largely lost sight of, unless in a few cases of special interest and aptitude on the part of some few students—and all teachers know how little may be hoped for in this regard in an average class. In many hospitals this course in reality only teaches the average nurse to prepare the ordinary invalid foods, differentiating only between "general diet" and "light diet" and to administer "nourishment" ever so often; or to prepare tasteful and attractive-looking trays. This is quite sufficient, it is true, for the average case, but too often there is little real knowledge of the principles involved. I have had experiences, for instance, in applying the Lenhart treatment for gastric ulcer, and the Allen treatment of diabetes, in which substitutions were made innocently and thoughtlessly which upset the rationale of the treatment completely.

Offhand, I cannot state just how much I think this course should be extended; it would require careful thought; but in general I believe there should be, in addition to the diet school instruction, some supplementary practical work in the wards, still under the observation of the dietitian.

Second: What constitutes a competent diet teacher in a hospital? In the first place, she should be a graduate dietitian; and that brings up the question of acceptable schools of dietetics, which should receive some consideration. Hospital dietetics seems to me a special branch of that subject, and I think schools preparing to train dietitians for hospitals should give special courses preferably, or at least special attention to certain subjects relating to specific dietaries in at least the more frequent diseases. It would be very desirable also for an aspirant to the position of hospital dietitian to acquire actual hospital experience as a subordinate. If she is to teach, she should have at least an aptitude for teaching, and experience as assistant in such work would also prove of great value.

Third: What should be the relation of the diet teacher to the general service of the hospital? It must be remembered that the state medical board is officially interested in the hospital dietitian chiefly as a *teacher;* therefore the board considers it important that the diet teacher be definitely recognized as an important member of the instructional force. The board realizes also the great advantage to the students of the practical application of the class-room teaching in the wards; that the impressions are much more durable if the student observes the diet teacher apply her own teachings in the cases of actual illness. I believe that in the smaller and middle-sized hospitals, the diet teacher should also be dietitian, that is, have supervision of the preparation and serving of all food for the patients, and where possible have supervision at least of the buying of the food supplies. In the larger hospitals at least some arrangement should be made, I believe, for an active dietary service on the part of the diet teacher, and some connection, advisory at least, could be arranged with the purchasing department as far as foods are concerned.

Twenty years ago, while an intern at Johns Hopkins Hospital, I witnessed some pioneer work along these lines. There was maintained then merely a diet school for the pupil nurses, with, as I remember, no real opportunity for the practical application of the didactic and class-room teaching. Great strides have been made since then, and I cannot feel that the plan of the diet school is up to date; I feel that it is not pedagogically correct and the restriction of the duties of the trained dietitian to the class room deprives the hospital and its patients of valuable service, and leads to deterioriation in the teacher herself in thus narrowing the field of her activities.

Fourth: How can the position of diet teacher be made more attractive to students of dietetics?

Too often the position of diet teacher in a hospital is an anomalous one; in some she may be regarded as a superior sort of cook; in another she is more or less isolated, with little recognition of her important place as a part of the instructional force, which is quite on a par with that of the head nurse of a floor or ward.

Unquestionably she would receive greater recognition; and that will follow if she is given more active participation in the management of the hospital and the treatment of patients. She should be given the social recognition to which she is entitled as a part of the teaching staff; and, lastly, she should be given better financial recognition, nearer commensurate with the importance of her services if they are properly utilized.

MAN IS LIKE A FURNACE

Overfed or Underfed His Body Works Badly—Clean Out the Ashes and "Fire" Judiciously

"Consider the furnace," says the latest Bulletin of the U. S. Public Health Service.

"Theoretically this is a machine for the economical production of heat. If the proper amount of the proper kind of fuel is properly put into it, if the ashes are properly cleaned out, if the drafts are properly managed, the chances are that it will heat the house properly. If, on the other hand, too much or too little fuel is put into it, if the fuel contains too much noninflammable material, if the fire is not kept clean of ashes, or if the dampers are badly regulated, the furnace operates inefficiently or ceases working altogether. Perhaps the most important thing, next to putting in the fuel, is to clean out the ashes. If these are allowed to accumulate in the ash pit, the grate bars may be burned out.

"Food is taken into the human body for the purpose of producing heat. The standard of its value is the number of heat units it contains. If too little fuel is taken into the human body, an insufficient number of heat units to operate it are received and it works inefficiently. If, on the other hand, too great an amount of food is taken, the body becomes clogged and works just as inefficiently as if it had received too small an amount. The most important thing is to remove promptly all of the waste materials remaining after the food has given up its heat units. If too great an amount of this debris is allowed to remain, the fires of the body are in danger of being put out by these materials. The elimination of these materials is one of the functions of the intestinal canal. One of the requisites of good health is an educated intestinal apparatus. Perhaps this is even more important than an educated set of brains. Certainly an educated set of brains cannot work effectively so long as the intestinal apparatus is badly operated."

INDUSTRIAL WELFARE

"HEALTH FIRST" IS THE MOTTO

* * *

Welfare Work of the Commonwealth Edison Company Also Contemplates Sick Benefits, Savings, and Recreation

BY HENRY G. KOBICK, Superintendent Employment Bureau.

The rapid advance of modern industry has been marked by one of the most significant problems to be solved by the management of companies employing large numbers of employees. This has been termed by modern sociological writers, "personnel." The problem of keeping a unified, loyal spirit among employees has been largely solved by the personal touch in so-called welfare work. In this broad and general term are included all steps taken by employers to insure the health, happiness, and contentment of employees. The Commonwealth Edison Company has long

Fig. 1. Commonwealth Edison Company. Examination of employee in the medical department.

recognized the importance of work of this character, and the writer will attempt to briefly describe the more important features of this work conducted by the company.

Foremost among the measures taken by the company for the welfare of its employees is the problem of safeguarding their health. There can be no better movement toward improving the efficiency of any organization than a "Health First" movement, which, if properly organized and conducted, will produce even greater results than the wonderful "Safety First" campaign, recently conducted throughout the entire country. As a step in this direction, there was instituted about six years ago the plan of a thorough medical inspection of applicants, coupled with a systematic semiannual inspection of all employees. For this work a medical department was established, consisting of a chief surgeon, two assistant surgeons, and nurses. During the past year approximately 7 percent of all applicants who had the necessary qualifications were rejected by the company physician as being ineligible for appointment to the service. About 10 percent of these applicants who were employed were found to be in condition which permitted their appointment to the service, provided they took the proper steps to remedy such ailments as incorrect eyesight, decayed teeth, adenoids, enlarged tonsils, etc. Those of our permanent employees who are discovered at our semiannual inspections to be in failing health are either given leave of absence or transferred to positions in the company better suited to their condition. On recommendation of department heads, ailing employees are permitted to consult the company physicians, who prescribe for them and determine whether they should be sent home.

Fig. 2. Commonwealth Edison Company. Operating room in the medical department.

The company also employs a trained visiting nurse, whose duty it is to visit the homes of employees who are reported absent, and make recommendations, wherever necessary, for relief or improvements in living conditions of employees. The company has always followed a very liberal policy in giving relief to employees who are in failing health, and in some cases has continued such employees on the payroll for a considerable period of time. Provision is also made for the relief of dependents of deceased employees and it is the duty of the visiting nurse to keep in touch with these families. Wherever there are

Fig. 3. Commonwealth Edison Company. Choral Society.

dependents who are able to work, employment is found for them in the company, and suggestions are made as to the education of the children.

Hearty support is given to the local section of the National Electric Light Association, which is composed entirely of men employees. Monthly meetings of this section are held in Customers' Hall, Edison Building. The program of these meetings usually consists of a talk by

some prominent speaker, followed by an entertainment provided by local talent. In addition to these meetings, group educational meetings are conducted by employees, at which competitive papers are read and discussed. All recreational, educational, and athletic activities are promoted through the medium of the local section. These consist of an orchestra of 100 pieces, a players' club, which gives entertainments at monthly meetings and an annual show, a choral society of about 100 voices, chess and checker clubs, rifle range, baseball teams, bowling clubs, and golf and tennis tournaments. Trophy and individual prizes are given to those who are most proficient. An outing for all employees is given during the summer of each year, at which entertainment and sport of the usual kind are provided. The women employees of the company have an organization, and hold monthly meetings, for which a dinner is provided by the company, and which is prepared and served by the women themselves. An annual outing for women employees exclusively is also given in the fall of each year.

The company promotes thrift among its employees, and has provided a savings fund, in which employees deposit to participate in the purchase of stock. Subscription lists for the purchase of stock are formed from time to time, in order that employees may become in a measure partners in the organization. A pension system has also been provided by the company.

The importance of work of this character is just beginning to be realized throughout the country, and the effect that it will have on the attitude an employee bears toward his company will, in a large measure, be the result of what was first termed the personal touch between the employer and the employee.

KEEPING EMPLOYEES HAPPY

* * *

Music, Rest, and Recreation Contribute to the Success of a Button Factory and the Content of Its Employees

BY HAROLD CARY.

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You cannot make a factory hand happy by putting in a hospital. Workers will be unhappy if you have not such a necessary adjunct to the plant, but it will not make them happy and care-free. Nor, thinking for the welfare of your men and women, will you assist them up the ladder of joy in work with a large sign recommending safety first or abstinence from booze? Look at it another way. What makes you joyful? A game of golf, a quiet rest, a little music, and light, clean surroundings. All right, then; give something on that recipe to your employees—that is, if in these days of munitions plants and high wages, you want to keep your work benches filled and your output at maximum figures.

There we have told you the secrets of the factory success of the largest button factory in the world, located in the heart of the button industry at Rochester, N. Y. In that daylight plant millions of ivory nuts from South America are turned into dress and trousers buttons to hold on the clothes of the world, and since we sat at a turning bench in that factory for an hour we can recommend making buttons to the man who likes monotony. Every operation in the factory is a monotonous one, since it takes seventy people to turn a nut into a button and the work is divided so that no one except the last polishers ever see a bit of the finished product. You cannot ride a button home at night after making a few thousand of its inner parts the way you can ride an automobile home after making some of its insides all day. Hence, in the first place, music: The manufacturer knew that music hath power, so he installed phonographs in the big rooms. All day long they turn out lilting melodies, and the girls who card buttons—sewing them on squares of cardboard as you see them in the stores—actually enjoy their work as a result. No machine has been devised as yet which will card buttons efficiently, like girls plus music. In the larger machine rooms, where the noise prevents the use of anything musical except a brass band, the men get along without music, but their sight is pleased by the huge potted palms between the machines. The carding room has palms too, so that on first glance the big-widowed room looks like a conservatory phonograph concert to which the feminine guests have brought their sewing.

Next on the list comes rest. It is simple, when it has been worked out. Every hour a big gong rings, and all the workers knock off for ten minutes to chat and chatter to their hearts' content. The surprising thing then is that many of the girls keep right at their task while they talk; to stop them would be like trying to slow down a quilting bee. But the psychological effect is splendid. Everyone knows that he can stop if he wants to and so he does not care whether he keeps on or not. This is not true in the machine rooms, since the power is turned off for a period of ten minutes so that the noisy shops will be quiet and nerves kept from stringing too tight. There is also the question of refreshment. Neither tea nor beer is served, but two white-coated youngsters keep on the march all day long with a wagon loaded down with individual drinking cups. Water, and sometimes iced lemonade, is the beverage.

Most important of all is the recreation. This manufacturer has a plant that is situated in a huge park with beautiful trees, so that his whole establishment would do credit to a residential section. The open space is laid out for different sports, of which the most popular, strange to say, is the ancient one of bowling on the green. Rivalry between teams is acute and the league season lasts from snow to snow. Balls are furnished to the company by a sporting-goods manufacturer and assigned to individuals. They are carefully oiled and kept always in net bags so that they do not get chipped knocking around the recreation room.

There is a complement of all the recommended welfare departments at this factory. They are not unusual except in their uniform excellence. The hospital is better than that found in most educational establishments, painted white and kept by a registered nurse who is in constant attendance. The lunch room is a community affair, and the day we spent in looking over this modern wonder of factories it was most neighborly. The president and his staff sat at a big round table and ordered food from a menu which carried the maximum price of seven cents for one dish. It was possible to get an excellent meal for twelve or fourteen cents, piping hot and quite appetizing. The only distinction between the executives' mess and the workers' tables was that a bright-eyed girl waited on our table and that elsewhere bright-eyed girls and young men waited on themselves.

So the next time you sew on a trousers button look it over. It was made from an ivory nut, growing in South America, and if it came from Rochester the seventy people who had a hand in it were humming or whistling at their task. So were the 1,100 other workers at the factory.

The Flushing Hospital, Flushing, N. Y., will build a $25,000 addition this spring.

QUERIES AND ANSWERS

Soundproof Floors and Doors

To the Editor of THE MODERN HOSPITAL:

I have looked over my files of THE MODERN HOSPITAL, but do not find what I want. Where can I get information on "soundproof" floors and doors? We have drawn our own plans, so have no one to consult on this.

NEBRASKA.

There is an adage that "a man who is his own lawyer, has a fool for a client." The same might justly be said of one who draws his own plans for a hospital. You can hire an architect, pay him a decent fee, and get a hospital that is not only far better but also cheaper in the long run, quality and arrangements considered.

Aside from this, however, it would be utterly useless to attempt to give you any help unless we knew more about your details. Is your hospital to be of fireproof materials, and, if so, what? Is it to be one story or more? Is it to be large or small? How many beds is it to have or how many cubic feet of space? How much money have you to spend?

Health Insurance in Hospitals

To the Editor of THE MODERN HOSPITAL:

We are considering starting a health insurance organization in connection with our sanatorium, and would be pleased to know if there are any institutions in the land operating a health insurance. Any information you may be able to give us along this line will be greatly appreciated, also any suggestion that you might offer, as to advisability or practicability of a move of this kind.

A MISSOURI HOSPITAL.

The following reply is kindly furnished by Dr. W. A. Evans, health editor of the Chicago *Tribune*.

"I do not know exactly what your correspondent wishes to know. If his sanatorium intends to insure the health of people generally, he will find that there are companies in the field that are doing that work. I am sure that the insurance commissioner of Missouri could furnish a long list of such companies. The only one of which I have personal knowledge is the American Health and Accident Insurance Company, of Nashville, Tenn. Such companies pay cash benefits and the insured can use the money in securing treatment wherever he pleases.

"I do not know of any institution in this country which insures and gives treatment in the sanatorium or hospital connected with such institution except the various hospitals, of which there are many in Chicago, where they give medical care at so much per year.

"Most European countries have health insurance as a function of the state and there are sanatoriums in connection with such insurance foundation. Perhaps your correspondent would like to read something about this system. He can read of the German system in Dawson's 'History of Health Insurance in Germany,' or Carr Gathcart and Taylor's work on 'Health Insurance in England'; or Rubinow's book on 'Standards of Health Insurance.'

"If this information is not what your correspondent wants, kindly ask him to write in detail just what he wants to know and I will reply as best I can."

Advertising the Hospital

To the Editor of THE MODERN HOSPITAL:

I am interested to know what saith "the law and the prophets" about the advertising of hospitals in the lay press or newspapers. I built and equipped a thoroughly modern hospital last year, and opened it in July. It has 31 rooms and was opened as an "open" hospital, where any reputable physician may come and do or bring his work. The institution has been liberally patronized, both by my own patients and by other physicians. But I am ambitious to be instrumental in building an all-round clinic here, a place where the sick of this territory may come, and a place from which nurses for this territory may be obtained. So I thought of advising the people of this territory, through the newspapers, that there is such a place, where general medical and surgical cases are treated by a staff of men, and from which nurses may be had. I keep twelve nurses on my staff, and others registered, and my staff of physicians, or the physicians who are doing all of their work at my hospital, are the best men in this section.

I wish this institution to render service to this country. How is this country to know about the institution and its resources unless the word be sent out? It goes without saying, inasmuch as I am of "the strictest sect of the Pharisees," that any institution with which I am connected would have to make its resources known in quite conservative language, keeping severely within the bounds of wholesome propriety and thoroughly good taste. But, what saith "the law and the prophets" on this point? Please write me fully and promptly. ALABAMA.

"The law and the prophets" seem not to have had the problems of the modern hospital in mind; and it is quite certain that the ethics of the medical profession cannot limit the activities of hospitals. While it would be entirely unethical for you or any of your associates to advertise your business in the daily press, it is quite admissible for hospitals to do so, and we think it is an excellent way to bring about recognition on the part of the people in the community. If you will read an editorial, "Advertising a Hospital," page 32 of the January number, you will find there some suggestions as to methods that have been tried successfully elsewhere. The hospital referred to in this editorial is the Minneapolis City Hospital, a charity institution, but one that has derived an immense amount of benefit, not only in popular esteem, but by way of increased appropriations, because of its methods of taking the public into its confidence.

Would you not be able to secure the cooperation of your daily papers and give them some interesting special articles about the hospital? The health of a community is always an interesting topic for the newspapers and if the articles could be written in a newsy style they ought to be of much local interest and the newspapers ought to be glad to have them. In any event, you will be perfectly safe on the ethical side to advertise the value of your hospital to the community.

Pennsylvania Hospitals Refused Aid

The Pennsylvania State Board of Charities has recommended that the usual "state aid" to hospitals be withdrawn from the following: the Douglass Hospital, the Gynecean Hospital, the Osteopathic Hospital, and the Providence General Hospital of Germantown.

The reasons given are that one hospital has no local support; that the income of another is greater than its expenditures; that a third occupies an old, insanitary building without proper facilities; and that serious charges are pending against the superintendent of another.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
44 Baxter Building, Philadelphia, Pa.
WILLIAM H. WALSH, M. D., Secretary.

Official Bulletin for February

TRUSTEES' MEETING

The board of trustees held a meeting at the Bellevue-Stratford Hotel, Philadelphia, January, 1917, at which many matters of interest to the association were discussed.

CLEVELAND PROGRAM

The president desires to announce the fact that he is preparing the program for 1917, and that he invites suggestions from members as to their preference for subjects. It is hoped that members will respond freely to this invitation, and that those who desire to present papers will communicate with the secretary at the earliest possible date. To those who contemplate submitting papers, the following information will be of interest:

1. New subjects will be very welcome, but since "nothing is new under the sun," it is suggested that prospective authors acquaint themselves with the literature already published on the matter to be presented. If they will do so the association will be saved the time and expense entailed by the presentation of a flood of already known facts and opinions.

2. An author whose paper is accepted will be required to submit an abstract on or before July 31. The importance of this request cannot be overestimated, and failure to comply with it may cause a paper to be omitted from the program.

3. Attention is invited to the requirements of the by-laws regarding the property rights of papers presented to the association. Authors should understand that the association reserves exclusive right to publication, and shall have the right and authority to determine when and where convention proceedings shall be published.

4. Members designated to open discussions will be supplied with copies of abstracts so that it will be possible for them to prepare intelligent discussions prior to the meeting.

COMMITTEE APPOINTMENTS

The president has already announced the names of those chosen for committee work, and in this connection he desires to request the various chairmen to prepare abstracts of their reports on or before August 1, 1917. Each chairman is also requested to advise the secretary of the time necessary for reading the committee report.

The various committees are made up as follows:

Membership Committee.—Dr. Wm. H. Walsh, chairman, Philadelphia, Pa.; George Baily, Jr., Cooper Hospital, Camden, N. J.; Miss K. M. Prinderville, Joseph Lawrence Free Hospital, New London, Conn.; Dr. A. W. Smith, Hartford Hospital, Hartford, Conn.

Nominating Committee.—Dr. Renwick R. Ross, Buffalo General Hospital, Buffalo, N. Y.; Miss Ida M. Barrett, Blodgett Memorial Hospital, Grand Rapids, Mich.; H. E. Webster, Royal Victoria Hospital, Montreal, Can.

Committee on Non-Commercial Exhibit.—Miss Alma Hogle, Huron Road Hospital, Cleveland, Ohio; Sister M. Genevieve, St. Elizabeth Hospital, Youngstown, Ohio; Miss Esther T. Jackson, Augustana Hospital, Chicago, Ill.; Miss Roberta M. West, Philadelphia Hospital for Contagious Diseases, Philadelphia, Pa.; Miss Alice Thatcher, The Christ Hospital, Cincinnati, Ohio; Miss Mary Jamison, Grant Hospital, Columbus, Ohio; Miss M. A. Lawson, City Hospital, Akron, Ohio; Miss L. K. Keller, Asbury Hospital, Minneapolis, Minn.

Publication Committee.—Dr. Wm. H. Walsh, chairman, Philadelphia, Pa.; Daniel D. Test, Pennsylvania Hospital, Philadelphia, Pa.; Captain E. F. Leiper, Episcopal Hospital, Philadelphia, Pa.; Dr. Wiley E. Woodbury, Hahnemann Hospital, New York city.

Committee on Health Insurance.—Dr. S. S. Goldwater, Mt. Sinai Hospital, New York city; Michael M. Davis, Boston City Dispensary, Boston, Mass.; Dr. John M. Peters, Rhode Island Hospital, Providence, R. I.; Dr. W. T. Graham, University Hospital, Iowa City, Iowa; Dr. H. O. Collins, City Hospital, Minneapolis, Minn.; Dr. R. G. Broderick, San Francisco, Cal.

Committee on Out-Patient Work.—Michael M. Davis, Boston City Dispensary, Boston, Mass.; John E. Ransom, Central Free Dispensary, Chicago, Ill.; Dr. R. S. Seem, Johns Hopkins Hospital, Baltimore, Md.

Committee on Legislation.—Dr. George O'Hanlon, Bellevue and Allied Hospitals, New York city; Dr. Arthur B. Ancker, City and County Hospital, St. Paul, Minn.; Rev. D. R. Pevoto, Baptist Sanitarium, Houston, Tex.

Committee on Standardization of Hospitals.—Dr. Winford H. Smith, Johns Hopkins Hospital, Baltimore, Md.; Dr. W. L. Babcock, Grace Hospital, Detroit, Mich.; Dr. F. A. Washburn, Massachusetts General Hospital, Boston, Mass.

Special Committee on Accounting.—Dr. A. R. Warner, Lakeside Hospital, Cleveland, Ohio; Dr. J. B. Howland, Massachusetts General Hospital, Boston, Mass.; Cornelius S. Loder, New York city.

Committee on Preparedness.—Dr. F. A. Washburn, Massachusetts General Hospital, Boston, Mass.; Dr. G. W. Nealley, Brooklyn Hospital, New York city; Captain E. F. Leiper, Episcopal Hospital, Philadelphia, Pa.

Local Committee on Arrangements.—Members of the Cleveland Hospital Council.

Delegate to Council on Health and Public Instruction A. M. A.—Dr. John A. Hornsby, Chicago, Ill.

Delegate to American Public Health Association.—Michael M. Davis, Boston City Dispensary, Boston, Mass.

Committee on Constitution and Rules.—Richard P. Borden, Union Hospital, Fall River, Mass.; Dr. H. B. Howard, Peter Bent Brigham Hospital, Boston, Mass.; Dr. Cleveland H. Shutt, City Hospital, St. Louis, Mo.

Committee on Necrology.—Dr. Henry M. Hurd, Johns Hopkins Hospital, Baltimore, Md.

Members contemplating the presentation or discussion of subjects embraced within the titles of the various committees will facilitate the business of the association by communicating their views to the committee interested. For instance, if a change in the constitution or by-laws is contemplated or desired, such suggested change should be submitted in good time to the committee on constitution and rules. The same procedure should be followed with suggestions on legislation, out-patient work, accounting, health insurance, etc.

INCORPORATION OF THE A. H. A.

Recognizing the advantages, and, indeed, the necessity, for the incorporation of the association as an eleemosynary organization, the trustees discussed this subject at some length. It was the unanimous opinion that an organization of the size and importance of the American Hospital Association should avail itself of the rights and privileges of a corporation, and in order to take the preliminary steps in that direction, the matter was referred to a subcommittee for future consideration, and the secretary instructed to obtain information regarding the requirements of the various states for incorporated charitable bodies.

HOUSE OF DELEGATES

The committee appointed to consider and report upon the recommendations contained in the address of the president at the eighteenth annual convention urged the trustees to consider the advisability and practicability of establishing a house of delegates, for facilitating the more orderly and speedy transaction of business during the annual conventions. As it was impossible to reach any definite conclusions as to the basis of representation at this time, the subject was laid upon the table for consideration at a later date. In order that some progress might be made at the Cleveland convention, however, the fact was brought out that the president could so arrange the program as to provide for a business meeting at which only active members would be obliged to attend, and the president expressed himself as in favor of such an innovation.

SECTION ORGANIZATION

In the furtherance of the desire to provide the necessary machinery for the establishment of sections of the association, as provided by the constitution, the trustees considered a tentative draft of a constitution and set of by-laws submitted by the secretary for the use of organizations contemplating such recognition. The subject will receive the attention of each trustee, and a report made upon conclusions reached at the next meeting.

STEREOPTICON LOAN LIBRARY

The secretary desires to announce that through the courtesy of the U. S. Public Health Service members of the association may borrow sets of slides for educational purposes. Requests for these slides may be made to this office, and should reach us at least one month in advance. The following subjects are of especial interest to hospitals:

	Slides
Children and Children's Diseases	65
First Aid (Incomplete)	100
Health Exhibits	100
Hookworm	110
Leprosy	50
Housing (Incomplete)	21
Malaria	200
Mouth Hygiene	15
Milk	24
Physiology, Excellent for Nurses	30
Rural Schools (Incomplete)	10
Tuberculosis	100
Typhoid Fever	250
Venereal Diseases	36

REGARDING MEMBERSHIP

For fear hospital superintendents are unaware of the fact, attention is again invited to the provisions of the constitution regarding the eligibility of almost everyone in the hospital family to membership.

Section 2. Active members shall be those who at the time of their election are trustees or superintendents, or assistant superintendents, of hospitals, or members of the medical staffs of hospitals, however such officials may be designated. Any person once an active member may continue such membership so long as the rules of the association are conformed with.

Section 3. Associate members shall, at the time of their election, be heads of any executive, administrative or educational department of a hospital, other than as designated in Section 2, or contributors to, or members of, any association or board the object of which is the foundation, maintenance or improvement of hospitals or the promotion of organized charities for the improvement of health. Associate members may hold office, but shall not have the right to vote at meetings of the association.

PROCEEDINGS OF THE EIGHTEENTH ANNUAL CONVENTION

Each member of the association is entitled by reason of membership to one copy of the annual proceedings; it frequently happens, however, that more than one copy is desired so that the nurses, doctors, trustees, etc., may avail themselves of the fund of information contained therein. If you care to preserve your own copy, it is suggested that you purchase for the hospital one extra copy, and the secretary is now prepared to receive subscriptions. By order of the trustees the Transactions will be sold for $1.50 per copy. Every copy sent to others than bona fide members, and each additional copy sent to members will be charged for at this rate.

AMERICAN MEDICAL ASSOCIATION

Membership of Committees of Interest to Hospital People, Municipal and Nonmunicipal Hospitals

The Committee on Planning and Financing of Municipal and Nonmunicipal Hospitals, a subcommittee of the American Medical Association's local Committee on Arrangements, for the June convention, is composed as follows: Dr. George O'Hanlon, Medical Director, Bellevue and Allied Hospitals; Dr. Robert J. Wilson, Director of Hospitals, Department of Health; Hon. Henry C. Wright, First Deputy Commissioner, Department of Public Charities; Mr. Arnold W. Brunner, Architect, 101 Park Avenue, New York City; Mr. William S. Post, George B. Post & Sons, New York City; Mr. Philip Sawyer, York & Sawyer, New York City; Mr. T. J. van der Bent, McKim, Mead & White, New York City; Mr. J. J. Weber, State Charities Aid Association, Secretary; Dr. S. S. Goldwater, Chairman.

The membership of the American Medical Association's Committee on Trained Nursing and Training Schools is as follows: Miss M. A. Nutting, chairman, Teachers College, Columbia University; Miss Elizabeth Greener, vice chairman, Superintendent of Nurses, Mt. Sinai Hospital; Miss Jessie Murdock, secretary, Superintendent of Nurses, New York Post Graduate Hospital; Miss Annie W. Goodrich, Department of Nursing and Health, Teachers College, Columbia University; Miss Anna Maxwell, Superintendent of Nurses, Presbyterian Hospital; Miss Amy Hilliard, Superintendent of Nurses, Bellevue Hospital; Miss M. H. Jordan, Superintendent of Nurses, New York Hospital; Mrs. C. E. Bath, Superintendent of Nurses, St. Luke's Hospital; Miss Agnes Trull, Superintendent of Nurses, Brooklyn Hospital.

The American Medical Association Committee on Hospital Superintendents and Executives is composed as follows: Dr. Robert J. Wilson, chairman, Department of Health, New York city; Dr. William G. Nealley, secretary, Brooklyn Hospital, Brooklyn, N. Y.; Dr. George O'Hanlon, Bellevue and Allied Hospitals, New York city; Dr. C. H. Young, Presbyterian Hospital, New York city; Dr. Thomas Howell, New York Hospital, New York city; Mr. Alexander Candlish, Post-Graduate Hospital, New York city.

Fifty thousand dollars have been subscribed toward the erection of a new home for the Physicians and Surgeons' Hospital at Wilmington, Del. The hospital organization hopes to raise $60,000 additional.

BOOK REVIEWS

Side-Stepping Ill Health. Little, Brown & Co. $1.50.

"Side-Stepping Ill Health" is one of the most readable books that has fallen into our hands for some time. It is in no wise technical so far as the use of scientific terms is concerned, but treatment of the various subjects and the advice given have a definitely scientific basis. The publishers are more than justified in their statement, as follows:

"Rarely does a practicing physician write so sensibly and entertainingly of the common ailments to which the flesh is heir as does Dr. Bowers in this compact volume. He has presented here just the facts you want to know; he explains the various kinds of colds and what to do for them, and there is a chapter on insomnia which alone is worth the price of the book. Those predisposed to corpulency will do very well to follow his advice on "side-stepping stoutness."

Pure Foods. By J. C. Olsen, A. M., Ph. D. Ginn & Co.

This is a good reference book for the dietitian. It is a collection of lectures in which the author, who is professor of analytical chemistry at the Polytechnic Institute of Brooklyn, gives the results of food analysis and experimental work done in the various laboratories where experts are performing these tasks for the state, city, or some private concern. His interest in giving these lectures to the public in book form may well be inferred from his statement in the preface:

"The coal for our engines must be tested and analyzed, but the far more precious human organism is loaded with a heterogeneous mixture of fuel of unknown composition. We should not be surprised at low efficiency, inability to work, sickness, even the premature death of an organism which is given so little intelligent care. When an intelligent, well-informed public demands analyzed, tested foods, they will be better served by the food producer, manufacturer, and salesman; and if such food is consumed in the physiologically proper quantity and variety, there will be far less inefficiency, sickness, and mortality."

While many chapters in the book treat of subjects not specifically connected with hospital work, yet there is enough material in it that is worth while to warrant giving it a place in our library.

Orthopedic Surgery for Nurses. By John McWilliams Berry, M. D., clinical professor of orthopedics and roentgenology at Albany Medical College, New York. Pp. 97, with 72 illustrations. W. B. Saunders Company, Philadelphia, 1916.

According to the author's introduction, this little book is not intended as a text-book, but merely as a means of adding to the nurse's stock of general information. The intention is merely to enable the nurse to recognize orthopedic deformities so that she may be able to advise parents and guardians to seek proper medical care. In line with this, the descriptions of the various conditions is very brief, outline drawings supplementing the text or in some cases supplying the place of extended descriptions. Chapter 5, on "Weak Feet," contains some practical advice to the nurse on the choice of proper shoes and the care of the feet.

Rhymes of a Red Cross Man. By Robert W. Service, author of "The Spell of the Yukon," "The Ballads of a Cheechako," "Rhymes of a Rolling Stone," etc. Pp. 192. Cloth, $1 net. Barse & Hopkins, New York, 1916.

"Mademoiselle Miss." Letters from an American girl serving with the rank of lieutenant in a French army hospital at the front. With a preface by Dr. Richard C. Cabot. Pp. 102, with illustrations. Cloth, 50 cents (published for the benefit of the American Fund for French Wounded). W. A. Butterfield, Boston, 1916.

Here are two books the authors of which—the one an Englishman, the other an American girl—are both engaged in work of mercy "somewhere in France." Both books are byproducts, so to speak, for neither author is a professional writer. Robert W. Service, the author of "Rhymes of a Red Cross Man," has written two or three books, to be sure, but he is an adventurer who has happened to write, rather than a writer who has sought adventure for the sake of turning it into copy. He has followed the gleam of True Romance into the frozen North and over the blood-soaked battle fields. Service has been for two and a half years driving an ambulance in and out of the firing line. The "scraps of song" that he has brought back are souvenirs of grisly facts and of glorious thrills.

"Yet oh, it's great to be here with danger,
Here in the weird, death-pregnant dark,
In the devil's pasture a stealthy ranger,
When the moon is decently hiding. Hark!
What was that? Was it just the shiver
Of an eerie wind or a clammy hand?
The rustle of grass, or the passing quiver
Of one of the ghosts of No Man's Land?

* * * * * * * *

"But if there's horror, there's beauty, wonder;
The trench lights gleam and the rockets play.
That flood of magnificent orange yonder
Is a battery blazing miles away.
With a rush and a singing a great shell passes;
The rifles resentfully bicker and brawl,
And here I crouch in the dew-drenched grasses,
And look and listen and love it all."

The charming letters of "Mademoiselle Miss" were written "for one and for one only," and are published, without the knowledge of the author, for the benefit of the American Fund for French Wounded. "Mademoiselle Miss," as her soldiers call her, is the daughter of an ex-medical director of the U. S. Navy. Being in France when the war broke out, she enlisted as a hospital helper, studied day and night for a nurse's diploma under the French Red Cross, passed with credit, and is now serving, with the rank of lieutenant, at a French army hospital near the trenches of the Marne. Nurse, autocrat, and little mother to twenty or thirty big, helpless children, she confronts terrific tasks—work fourteen hours a day, twenty-five operations daily in one week—and confronts them joyfully. "Actually for the first time in my life I began to feel as a normal being should, in spite of the blood and anguish in which I move," she writes; and again: "You can't imagine, I suppose, that we laugh and jest all day long? Yet so it is, and if you can't do that, you might as well get out, for all the good you will ever do a French wounded soldier. Why, I believe his very wounds wouldn't heal if he were not allowed to make merry over them. . . ."

Very different, this picture of the Red Cross, from that of the "Red Cross Man." The man gathers up rich experience from the "slaughter mill," and incidentally "does

his bit;" the woman "does her bit," and incidentally garners rich experience—and both are breathlessly happy. Read both books—but don't choose Service's as a "night-cap" if you are a sleepless neurasthenic.

Bacteriology and Surgical Technic for Nurses. By Emily A. M. Stoney, formerly superintendent of the Training School for Nurses, Carney Hospital, South Boston, author of "Practical Points in Nursing," etc. Fourth edition, enlarged and reset. Pp. 342, with 223 illustrations. Cloth, $1.75 net. W. B. Saunders Company, Philadelphia, 1916.

In the first 64 pages of this work, a brief history of bacteriology and a discussion of bacteria as the causes of disease lead up to the theory of antitoxins and the important subject of antiseptics, disinfectants, and deodorants. The inclusion of argyrol and hydrogen dioxid in the list of "most prominent chemical germicides now in use" is misleading, by the way, since neither argyrol nor hydrogen dioxid is a germicide. The discussion indicates that the author was aware of this fact, but the list, notwithstanding, is likely to have a wrong impression on the mind of the hasty reader.

The remainder of the book is devoted to surgical technic. The illustrations, especially those of the chapters on bandaging, and instruments and supplies, add materially to the value and interest of the text. The nurse's share in surgical work—care of operating room, sterilization and care of gloves, instruments, etc., catheterization, douches, enemas and lavage, preparation of patient for operation and care afterward are fully described. Several chapters have been entirely rewritten for this, the fourth edition.

Preventive Medicine and Hygiene. By Milton J. Rosenau, professor of preventive medicine and hygiene, Harvard; director of the School for Health Officers of Harvard University and the Massachusetts Institute of Technology. Second edition. Pp. 1,286, with 172 illustrations. Cloth, $6.50. D. Appleton & Co., New York, 1916.

The second edition of this very important book contains much new material, and several chapters have been rewritten entirely or in part. The work now contains sections on: (1) prevention of the communicable diseases; (2) immunity, heredity, and eugenics; (3) foods; (4) air; (5) soil; (6) water; (7) sewage disposal; (8) refuse disposal; (9) vital statistics; (10) industrial hygiene, and diseases of occupation; (11) schools; (12) disinfection; (13) military hygiene. The sections on sewage disposal and refuse disposal are contributed by George C. Whipple and that on vital statistics by John W. Trask. The value of the remainder of the work is guaranteed by Dr. Rosenau's reputation as a sanitarian, earned in many years' varied experience as director of the hygiene laboratory of the U. S. Public Health Service, as quarantine officer, in epidemic campaigns, in epidemiologic investigations and in public health laboratories, at home, on the Continent of Europe, and in the tropics.

Public Health Nursing. By Mary Sewall Gardner, R. N., superintendent of the Providence District Nursing Association, president of the National Organization for Public Health Nursing, 1913-1916. Pp. 372. Cloth, $1.75. The Macmillan Company, New York, 1916.

Public health nursing is a vital and indispensable part of the public health movement. This book, which Miss Adelaide Nutting, of Teachers College, New York, calls "the first really comprehensive treatment of so timely a subject," is therefore an important contribution to the literature. It is not intended as a text-book; the author offers it with the modest hope "that it may prove helpful to nurses preparing themselves for public health nursing."

It should prove helpful, not only to public health nurses, but also to all who are in any way connected with or interested in public health nursing. It would be highly desirable that the second section, devoted to "Visiting Nursing," and the chapter on "Records and Statistics," in the third section, should be read by the lay members of all visiting nurse associations. These chapters—and, indeed, the whole book—are evidently the outgrowth of ripe experience; they are characterized by freedom from dogmatism and admirable common sense, and should help nurses and boards of managers to appreciate each other's problems.

TRIALS OF THE DOCTOR

Children Tell What Ails Them—Grown-ups Have Different Ways of Defeating the Object of Their Visit

It is curious how incapable some patients are of describing their symptoms or assisting the physician in his investigation into their cases. As a rule, children are the best witnesses in their own cases, says a doctor writing in *The Hospital*, London, and give an intelligible and straightforward account. You ask a child what is the matter with him, and he says at once, "I have hurt my arm," holding out the injured member for inspection. That tells one at once all one wants to know. But when the child's father presents himself and is asked the stereotyped question, "Well, what's the matter?" he begins something in this way: "Me and my mate got a day off, and so we thought we'd go to Epsom for a beano, so I goes to Bill Jones, who has a moke and a barrer, and 'Bill,' I says, 'how much for your moke and barrer for a day to Epsom?'" and so forth and so on.

The child's mother adopts a different attitude. She is intensely suspicious, and is not going to give herself away; and the conversation proceeds something as follows:

"Well, my good woman, what's the matter?"

"Ah! that's just what I come 'ere to find out."

"Well, but what do you complain of?"

"Oh, I don't complain. We all got to bear our troubles, and I bear mine. Gawd knows what's best for us, and it isn't for us to complain of what He sends us."

"But why do you come here?"

"Why, to be made better, o' course. What do you expect I come 'ere for? Pleasure? It ain't much pleasure to wait for an hour and a 'arf in that draughty 'all."

"Well, then, where is the pain?"

"All over me. You couldn't put a pin where I don't ache, and my poor back, well there! I feel sometimes as I shall break in two. Mrs. Brown she says it's the rheumatics, but I don't know. I think it's the liver."

"Where is it worst?"

"Well, I don't know, I think it's when I'm at the washtub, but sometimes it kitches me so I almost fall down with it."

Physician (in despair): "Here, Mr. Jones, will you take the history of this patient?"

The South San Francisco Hospital, a new corporation at South San Francisco, Cal., is having plans prepared for a modern hospital building to cost $30,000. Dr. F. Holmes Smith and Dr. F. S. Dolley are active in the undertaking. The facilities of the new institution will include equipment for hydrotherapeutic treatment.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Progress in the Construction of X-Ray Apparatus

In reviewing the Roentgen equipment which has been presented to the profession during the past year, it is gratifying to note that a great deal has been accomplished in the way of standardizing apparatus and in simplifying the operating parts.

X-ray transformers are now considered as the necessary type of generator, and technical questions involving advantages of the induction coil over the transformer seem to have disappeared. The reason for this is probably due, more than anything else, to the fact that manufacturers of transformers have made improvements in construction which have met objections against the transformer type of machine. Much has been accomplished in the way of producing transformers which operate more quietly, occupy less space and have fewer working parts, yet which accomplish far more than the first machines which appeared on the market.

Some manufacturers are now building equipment which combines in one unit a sufficient range of current, so that fluoroscopy treatment or plate work may be done, in contrast to the two or three machines often recommended in time past. There has been a further tendency toward supplying equipment so arranged as to work to the best possible advantage in the hospital where it is to be installed.

Important as the x-ray department is to any hospital, probably no department receives less serious attention, in laying out plans or in remodeling, than the x-ray laboratory. Only too often is some corner selected, altogether inadequate for even limited work. After the hospital is completed or remodeling done, as the case may be, the matter of x-ray equipment is looked into. The discovery is then made that the service wires supplying current are of insufficient capacity, ceilings too low for the overhead high-tension systems, room too small to provide proper protection to the operator and for handling the patient, and numerous other conditions which greatly hamper the satisfactory operation of this very essential department. Some day, it is hoped, those in charge of hospital construction will give the x-ray laboratory the same consideration as is given the operating room, the sterilizing room, etc.

Manufacturers have had these conditions to meet, and frequently their equipment was not adapted to the space. A number of transformers are now built so that they can be separated, as regards the control system and the generator. In some instances where space has been limited the transformer proper has been placed on the floor below and the high-tension wires alone lead into the x-ray laboratory, all controlling and regulating being done from a switchboard in the laboratory. This system has certain advantages, as it removes all noise from the room in which the patient is placed.

Modern roentgenography requires fast exposures with the patient under good control. One cannot much blame a nervous patient for becoming somewhat excited if taken into a small, dark room containing a generator which might be more noisy than necessary, and surrounded with the usual accessory parts which are, of course, necessary. All of these things are being taken into consideration by manufacturers, and, as stated, apparatus of late is being built better adapted to meet the trying conditions under which both operator and patient are at times placed.

It is, of course, impossible to give a detailed description of each item of equipment on the market and the particulars wherein it differs from the others. There are a number of very excellent makes of transformers, so that, as a rule, the purchaser today receives apparatus and equipment just about in proportion to the investment made. It is a mistake, however, to buy equipment as expensive as the modern outfit is without having assurance of a reasonable guarantee and of personal installation and instruction. One could some years ago buy a static machine, set it up by following the instructions accompanying it, and get along very nicely. This was true even during the time when the induction coil was the best machine available, but with the transformer delivering an enormous amount of current, new types of tubes, controlling devices, etc., it is important that one trained in the operation of the individual equipment being installed should be on hand to give the proper attention to the numerous details involved. Operating technic has changed greatly with the advent of the newer types of x-ray tubes.

There is hardly anyone at all conversant with the Roentgen art who is not acquainted with the Coolidge tube

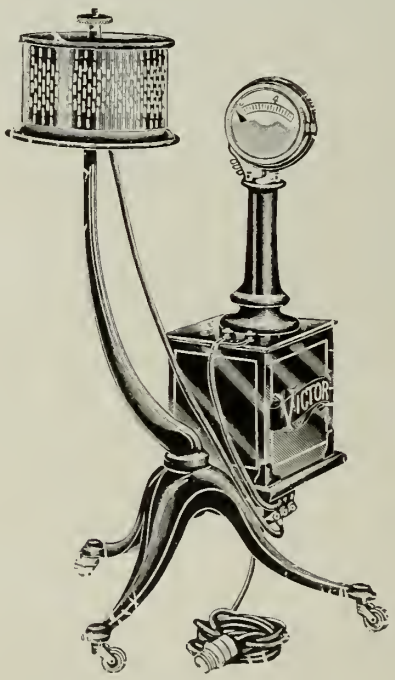

Fig. 1. Victor Coolidge control.

and its wide range of usefulness. It is almost the universal consensus of opinion that if the Coolidge tube was not in existence, fluoroscopy and deep therapy would not be in as general use as these two important branches of roentgenology are today. The Coolidge tube, when operated,

must be energized from an independent low-potential current in addition to the high-potential electric current available from the x-ray generator. When the Coolidge tube was first presented, the source of the low-potential current for the filament circuit of the tube was a storage battery with an ordinary resistance type of control. Since that time, however, research workers have discovered that a low-voltage transformer type of control was much more simple and efficient than the storage battery. Among newer types of transformer controls which have been developed during the past year is the Victor Coolidge control, which is illustrated herewith (Fig. 1). The regulator which controls the volume of current allowed to pass through the filament circuit of the tube is calibrated to coincide with the ammeter reading, so that after the installation is made and the reading standardized the ammeter may be dispensed with. Current curves plotted from the storage battery; ordinary transformers and of the improved type of control, respectively, show the new control capable of retaining the constancy of the current variations from minimum to maximum. The apparatus is designed so that it may be used for centralized or remote control installation.

The Schamberg tube stand (Fig. 2) is designed to meet the exacting requirements of the roentgenologist who does a great deal of jaw and sinus work. Use of this stand eliminates the heavy, cumbersome, expensive tables and

Fig. 2. Schamberg tube stand.

various other apparatus which have been necessary heretofore. The Schamberg stand enables the operator to radiograph any part of the head with the patient in a sitting posture.

The weight and shape of the tripod on those stands enables the operator to move it around with ease and to fit it snugly around the base of the chair in the x-ray cabinet in such a way that it takes scarcely any space. This stand is counterweighted, a slight effort only being necessary to raise or lower the tube to the desired position. Of particular importance is the quadrant, noticeable in the cut, which permits many positions of the tube heretofore impossible to obtain without moving the patient. By reason of this and the in-and-out and circular movement of the arms attached to the quadrant, any position may be obtained.

With the ever-increasing necessity of x-ray diagnosis and the elaborate equipment required nowadays, the development of "combination" accessory apparatus has received plenty of encouragement from hospitals. Before the advent of "combination" apparatus, it was necessary for the Roentgen laboratory to install a tube stand, a

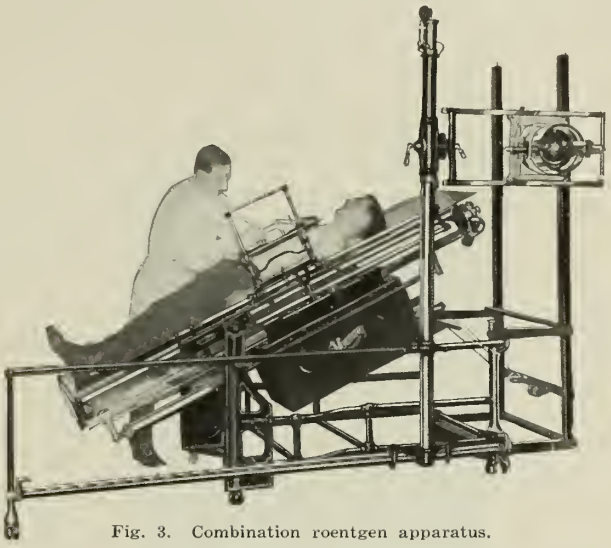

Fig. 3. Combination roentgen apparatus.

radiographic table, a vertical roentgenoscope, and a horizontal roentgenoscope, and in many instances apparatus for orthodiagraphy. The combination Roentgen apparatus (Fig. 3) is designed for all of the aforementioned functions, namely, radiography (ordinary and stereoscopic), fluoroscopy, orthodiagraphy, in horizontal, vertical, and angular positions. In spite of this unusually wide range of service, this apparatus takes up no more room than an

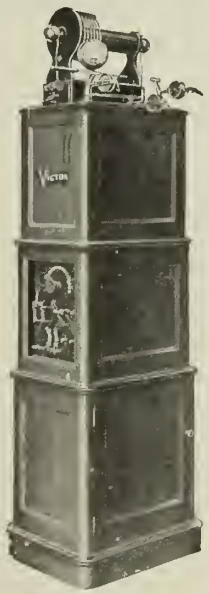

Fig. 4. Victor M. I. P. interrupterless x-ray transformer.

ordinary radiostereoscopic table. Any type of x-ray tube (gas, hydrogen or Coolidge) may be used with this apparatus, the tube connections being universal.

Since it is necessary for the larger hospitals to have in almost daily instance facilities for doing x-ray work at the bedside, the advent of the Victor M. I. P. interruptless x-ray transformer (Fig. 4) was welcomed into many institutions. It is of the semiportable type, being built in three sections, and is assembled for operation without any screws or other fastenings. When assembled it occupies a floor space less than 2 feet square. In spite of its small size it has sufficient capacity for all bone radiography, practically complete fluoroscopic service, and x-ray therapy.

The "American" interruptless transformer machine (Fig. 5) is of compact design, and, while originally placed on the market as a dental transformer, is particularly well adapted where average work is required. The machine has capacity sufficient for sending about 100 milli-

Fig. 5. "American" interrupterless transformer machine.

meters of current through a tube having a back-up of 4 inches.

The Meyer transformer is one which is well-known for its compactness in design and efficiency in delivering a satisfactory amount of current.

The McIntosh interruptless transformer is of a type which does away entirely with the motor and rectifying switch. This firm has recently placed a transformer on the market which is especially designed for small hospitals. At one end of the cabinet all controlling is done and at the other the tube stand is permanently attached.

The Wappler transformer is built in several types, so as to meet the demand of the individual hospital where the apparatus is to be installed. Principal among the important points of construction is the excellent grade of insulation used on all Wappler transformers. The claim is made and borne out by actual test that there can be no leakage of current from a Wappler machine. The entire front of the cabinet is made of thick black glass, which is, of course, one of the best insulators. This firm also makes an excellent automatic timing device, which, when used on the alternating current, will accurately measure the time of exposure as short as 1/120 part of a second.

The Kelley-Koett transformer is well known to many of our readers. During the past year several minor changes applying to points of convenience have been made, and this firm's line of accessories, such as tube stands, roentgenoscopes and other equipment has always shown their close understanding of the requirements of the x-ray operator.

The well-known and popular Snook model x-ray transformer has recently been equipped with a new device for measuring the penetration of the x-ray tube. This instrument is called the spark meter. It consists of a volt meter, which is tapped into the primary alternating current circuit of the machine and calibrated to read the resistance of the x-ray tube in inches of spark.

It is an electrical fact that the secondary voltage given off by the high-tension transformer is never greater than may be necessary to overcome a given resistance, such as might be offered by an x-ray tube. Should the resistance change, the voltage changes and the effect in the secondary voltage is felt in the primary. Therefore any meter which is tapped into the primary will register the resistance of the x-ray tube if properly calibrated.

The engineering department of the Victor Electric Corporation advises that these instruments are calibrated for each transformer and can, therefore, be guaranteed to be absolutely accurate. During the time that the instrument has been in use, it has received nothing but the highest praise from roentgenologists.

The importance of the proper localization of foreign bodies in the orbit of the eye has always been appreciated by eye surgeons, particularly since the various workmen's compensation acts have gone into effect in several states. Accurate localization of a bit of steel may mean the saving of a workman's eye, and no procedure should be too much trouble or too expensive to gain this result. The method in most general use for several years has been the one devised by Dr. William Sweet, of the Wills Eye Hospital of Philadelphia. Dr. Sweet is recognized as one of the greatest authorities on this subject. Some time ago Dr. Sweet, collaborating with Mr. H. Clyde Snook, devised the first practical instrument for localizing foreign bodies in the eye by mechanical means entirely. His earlier method was so complicated and so dependent upon the

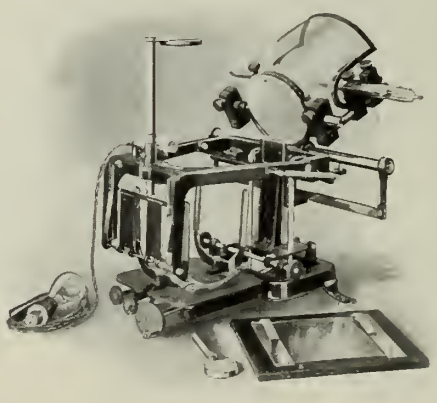

Fig. 6. Sweet eye localizer.

accuracy of the person doing the work that very few roentgenologists attempted to use it. With the improved Sweet eye localizer (Fig. 6) the personal element is entirely removed and the localization is made accurate within one-tenth of a millimeter without the means of cross threads or loose parts of any kind. The device is especially recommended for hospitals in industrial plants and in the large cities where work of this nature occurs.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. VIII *April, 1917* No. 4

A MODEL HOSPITAL ESTABLISHED AND MANAGED BY CHINESE

The Central Hospital of Peking Planned by Chicago Architects on Modern Lines—Chinese Medical and Nursing Staff in Charge—Chinese Cement and Iron Used in Construction[1]

By WU LIEN-TEH, M. D. (Cantab.), Medical Director

ONE of the modern enterprises that are attracting wide attention in the new Republic of China is the Central Hospital of Peking, which is to be financed and controlled entirely by Chinese. The inhabitants of this ancient land are known to be very conservative, especially in matters of medicine and public health, and the establishment of China's model hospital is a reminder to America that her sister republic across the Pacific is forging ahead. The readers of THE MODERN HOSPITAL may be interested to learn that the trustees of the hospital have employed Messrs. Shattuck and Hussey, the Chicago architects, to devise the plans and superintend the construction. The roof of this hospital is now on, and it is expected that the opening will take place some time next autumn. Already several orders have been executed by American firms, mainly through the medium of the advertising pages of THE MODERN HOSPITAL.

SITE

The hospital is situated in the west city on the main Ping Chih Men Street; the site was presented for the purpose by the Ministry of the Interior. Several odd lots in the neighborhood, as well as the old houses situated in that locality, were purchased at a total cost of $21,000. The ground is high, being nearly 3 feet above the level of the street. The lot is of the shape of an irregular quadrilateral, wider in the south than north. The building stands on the front part, while the back or northern part, with many strongly built old houses, will be kept for future purposes. The famous Temple of Imperial Ancestors lies next door to the present hospital, and its many fine trees will be a great asset.

ELEVATION

The type of building devised is distinctly American, consisting of a basement floor, the windows of which are at least 6 feet above the level of the ground and three floors above this. In front is a projecting wing for the main front door, whilst at either end is a bipartite wing with an intervening veranda containing the main third class wards and their solariums. The roofs of the wings are used as flat roof gardens. The shape of the building was finally decided upon in order to obtain the maximum of light with a minimum of exposure to northern winds in winter, and also to meet the objection of Chinese patients to rooms facing direct east and west. The whole building is 262 feet broad, an average of 90 feet deep, and 65 feet high.

GENERAL GROUND PLANS

The ground plans are mapped out in the form of a straight wide rectangle facing north and south, with a central corridor running from east to west. In front, facing the south, is the projecting wing for the front door and reception rooms; behind, to the north, are the three wings of the boiler room (with the operating theater above) in the middle, and a unit of the third-class general ward on either side; while at the eastern and western ends are bifurcated wings forming

[1]Fig. 5 is here presented by courtesy of Dr. Wu Lien-teh and of The Survey.

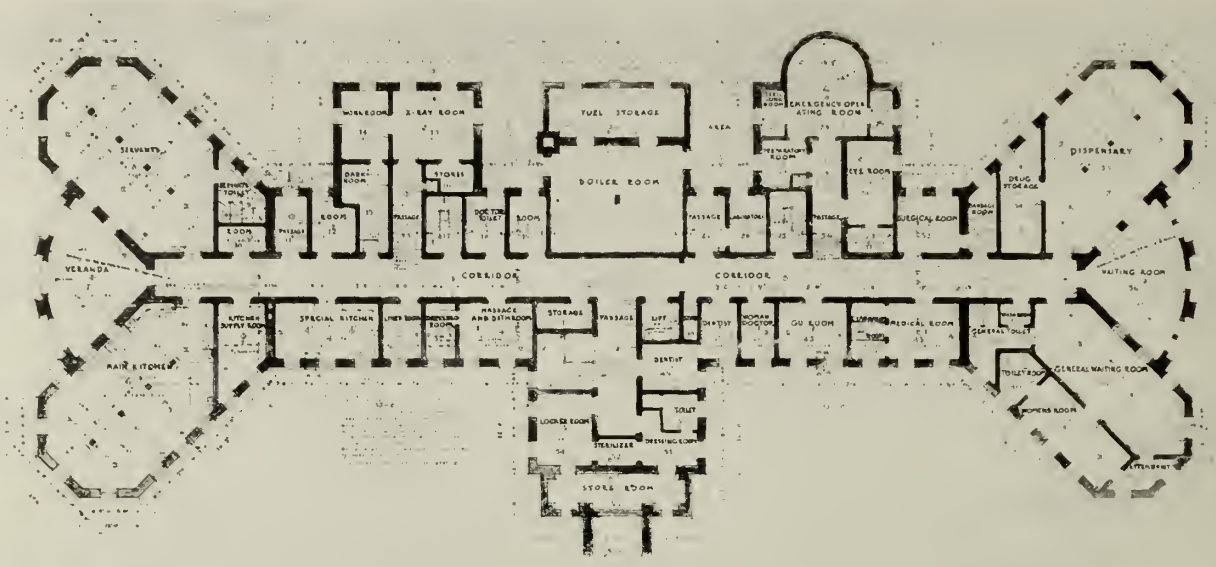

Fig. 1. Basement floor plan, Central Hospital of Peking.

the main third-class ward with a solarium occupying the space between the forked pieces. The corridor is 8 feet wide, and practically all rooms lead directly into it. Besides the electric lift, one central and two lateral staircases connect the various floors, and a fire escape runs from one floor to another through the eastern and western solariums.

Basement Floor.—The entrance for out-patients is situated in the eastern wing. The central corridor runs in a straight line from here to the western wing. The rooms lying south of this corridor are: one men's and one women's waiting room with toilets (capable of accommodating 200 persons altogether), medical room, genitourinary room, gynecological room, dental rooms, disinfection room (with adjoining bath and locker rooms), massage and electrical department, linen room, special kitchen, ordinary kitchen (for cooking Chinese meals). To the north of the corridor are, respectively: dispensary, store room for drugs, surgical and bandage rooms, ophthalmic rooms, emergency operating rooms, emergency laboratory, boiler and fuel rooms, general store room, x-ray and photographic rooms, chief attendant's room and attendants' room (with accommodation for 35), with toilet and shower baths. The veranda between the kitchen and attendants' room will be used as a dining room for the lower staff.

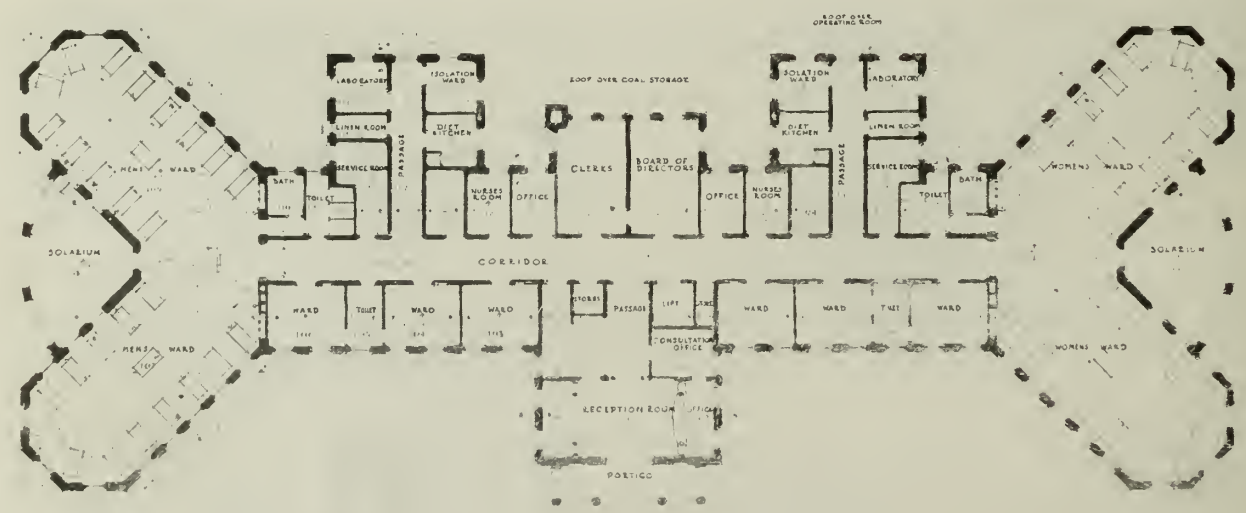

Fig. 2. First floor plan, Central Hospital of Peking.

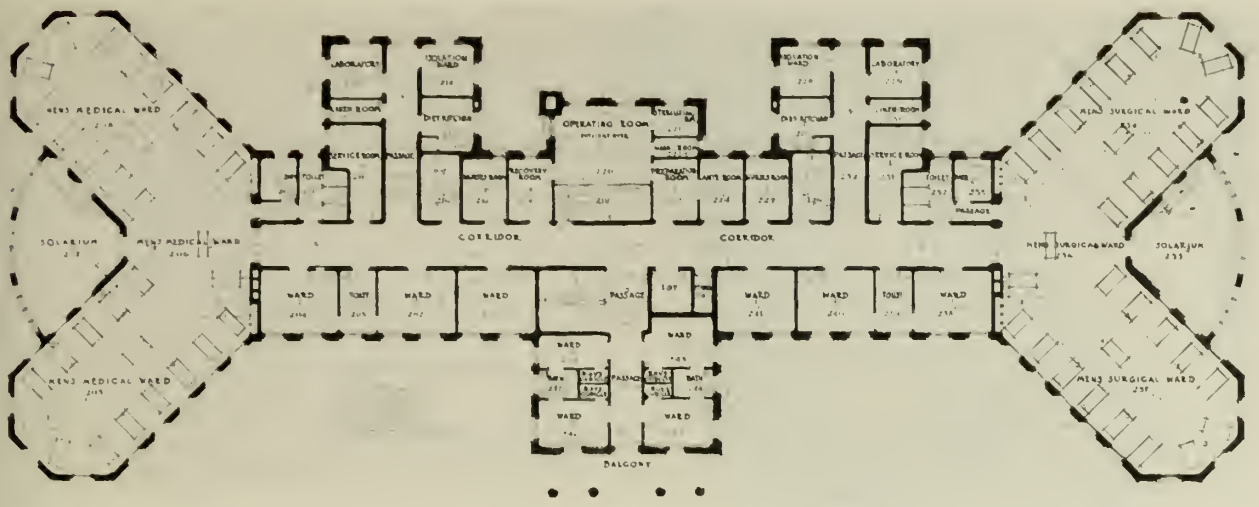

Fig. 3. Second floor plan, Central Hospital of Peking.

First Floor.—The front door steps lead to a portico and a main reception room, on the right of which is the inquiry office, and adjoining this is the superintendent's office. Behind this are the central staircase and the lifts, one on either side. Across the corridor one steps into the board room (for meeting of trustees, etc.), and clerks' room, from the doors of which a fair-sized veranda situated above the fuel room may be reached. Going toward the east wing lie a series of second-class private wards, facing the south, each capable of accommodating two patients, while the large third-class general ward with space for 25 beds occupies the whole of the forked wing. The rest, a model general ward unit, consisting of a bath room, toilet room, service room, linen room, laboratory, isolation ward, diet kitchen and sister's room, is placed on the north side of the corridor. On the west side, the general ward unit and private wards are arranged in the same way.

Second Floor.—The second floor is divided up in the same way as the first floor with the exception of the central part. Immediately above the reception rooms are situated first-class wards, each capable of holding one patient and possessing separate bath rooms and toilets. On the other side of the central corridor is the operating theater unit, consisting of sister's room, anteroom, preparation (anesthetic) room, sterilizing and wash room, operating room (with space for a movable auditorium), and recovery room. The wings on either side of this are arranged in the same way as on the first floor, namely, second-class private wards and third-class general wards and units. The wards on this floor are intended for surgical male and female cases.

Third Floor.—The central portion of the third floor is reserved for first-class wards containing private verandas. On the east are situated quarters for the superintendent and assistant medical officers, while the western wing is divided up into large analytical and bacteriologic laboratories where routine and research work will be carried

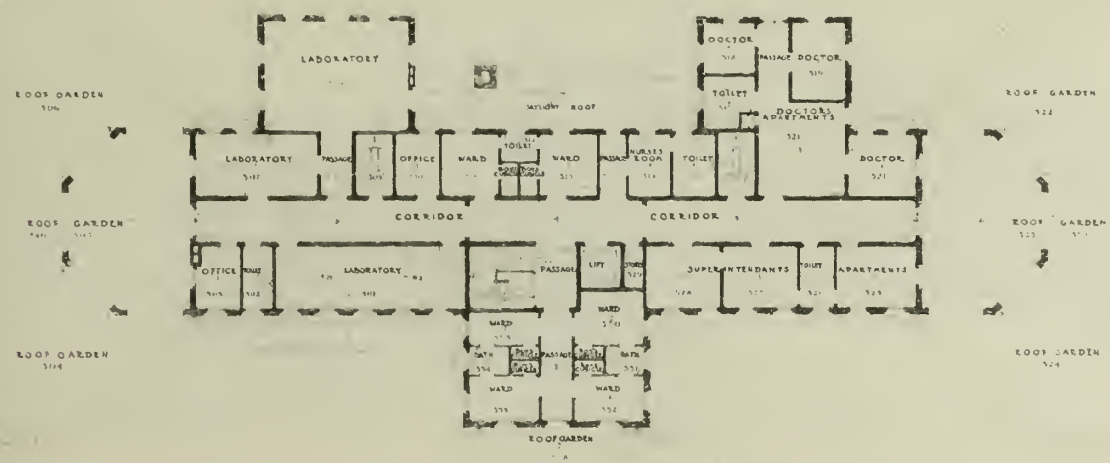

Fig. 4. Third floor plan, Central Hospital of Peking.

Fig. 5. One way of conveying patients to the hospital is on the back of some friend or relative.

out. The forked extremities serve as roof gardens for patients requiring the sun treatment.

OTHER POINTS

The building is of gray brick with a roof of red tile. The total number of beds will be about 150. The whole hospital is of fireproof construction, being the first building of its kind in the capital. Both the cement and the iron rods used are of Chinese manufacture, and considerable discounts have been allowed by various firms for this charitable undertaking. All the wards will be laid with Walton linoleum, and a hot water installation will be adopted for heating. The Customs Board has allowed materials ordered for the hospital to come in duty free, while the railways have charged half rates for conveyance. Most of the surgical and bacteriological instruments, costing over $25,000, have been presented by government institutions. When the building is completed next spring, the total cost will surprise the most critical in its moderation. It is expected that the whole building and equipment will cost a quarter of a million dollars. The hospital being mainly a voluntary establishment, the most rigid economy will be enforced in all directions consistent with efficiency, and it is hoped that the success of the scheme may induce other cities in China to move and so spread modern medical science through the length and breadth of this great land.

The resident medical staff of the hospital will be chosen from the most promising Chinese who have graduated from medical schools of different countries, including China. The visiting physicians will consist of specialists living in the capital who may desire to cooperate. The

Fig. 6. Readers of Dr. Wu Lien-Teh's article on the Central Hospital of Peking will be interested to know that in the distant town of Taheiho, shown in this picture, the Chinese Government has built another modern hospital. This picture is shown by courtesy *The Survey*.

nursing staff will be Chinese, with a sister in charge of each unit.

Included in the Central Hospital scheme is a clinic in the southern, more crowded, section of Peking, where paying and other patients may be seen and sent to the large hospital in case of need. For this purpose a motor ambulance service will be established. It is also proposed to build a sanatorium on the western hills, to which the convalescent patients may be sent. The land required for this purpose has already been granted, and the trustees are only waiting for some charitable donor to provide the necessary funds, amounting to $15,000, for starting the work.

HOSPITAL WORK IN THE ISLAND OF PORTO RICO

Churches Are Leading in Health Service—Radical Progress Being Made—Tropical Diseases Object of Activity—New Presbyterian Institution, Its Architecture and Work It Is Doing

By E. RAYMOND HILDRETH, M. D., Superintendent Presbyterian Hospital, San Juan, P. R.

PORTO RICO is becoming better known to an increasing number of Americans year by year. This is both because it is a part of the United States and so is more talked and written about, and because of the natural beauty of the island. Tourists like to return and recommend the trip to their friends. Porto Rico is "all scenery," and, thanks largely to American leadership, its 80 miles of macadam roads of nineteen years ago have been increased to 1,000. Perhaps the other most marked changes during these years of American occupation have been the establishment of a public-school system second only to our own, the economic development as shown by the greatly increased volume of trade, and the work of the churches. This latter has brought new life, spiritual, moral and physical, to the Porto Ricans. The eradication and prevention of disease should be ranked also among the really important achievements of this period. Following the discovery of the prevalence of uncinariasis by Dr. B. K. Ashford, much has been done by the government and other agencies to remove this handicap to mental and physical efficiency. Much also remains to be done, but as illiteracy, poverty and ignorance of hygiene are lessened the task becomes easier.

Porto Rico is one of the most densely populated countries in the world, with its million and a quarter inhabitants, or more than three hundred to the square mile. The largest city, San Juan, has only about fifty thousand, and the people are pretty evenly distributed throughout the island. In Spanish times there were practically only two classes, the rich who owned the property and governed, and the very poor. The medical needs of the latter were attended to by "municipal doctors" appointed by the cities and towns. They were given a small salary and allowed to engage in private practice as well. The people were attended in their homes and in dispensaries, but the doctor would not go outside the town unless well paid, so the poor people in the country had practically no medical attention. Most of the larger towns had small hospitals or rather buildings so called, though they rarely deserved the name. There was no modern equipment and the nursing was done by ignorant servants or by sisters who had no scientific training. The doctors received their education in Europe where trained nurses were unknown.

The hospitals were for the poor only, the rich being attended in their homes or going to Europe for treatment when that was possible. During the past ten years, however, many Porto Ricans have graduated from medical colleges in the United States, and largely under their direction there are a number of small, fairly well-equipped hospitals. Besides these, the Presbyterian Church has a hospital in San Juan on the north coast and one in Mayaguez on the west end. The Episcopalians have one in Ponce on the south shore, and the Congregational Church is building one at Humacao on the east end of the island.

Presbyterian Hospital, San Juan, Porto Rico; the new building now nearing completion.

The work which is being carried on in the Presbyterian Hospital in San Juan was begun as a dispensary work by Dr. Grace Atkins, who was

sent down as a medical missionary by the Woman's Board of Home Missions in January, 1901. So many of her patients needed hospital treatment that the following year she returned to the United States to appeal to the churches for funds, with the result that in 1903 property was bought on the ocean shore and a hospital with 45 beds was erected. The location is ideal, just outside the city, overlooking the water, receiving the full benefit of the cool northeast trade winds nearly all the year.

Our experience has taught some valuable lessons as to correct hospital construction in the tropics. First, as to materials: There should be as little wood used as possible, because the heat and moisture, together with various boring insects, causes rapid deterioration. Frequent painting is a help but not a cure. The cost of upkeep is too great, and this is why the present wooden building are to be torn down after only thirteen years of service, as soon as the new building is completed. This was begun in February, 1916, and is to be entirely of reenforced concrete, with concrete and tile roof. Another important problem which directly concerns the comfort of the patients is that of ventilation. Plenty of light must be provided, but each room must be protected from the glare and heat of the sun. Special attention must be paid to the direction of the prevailing winds, which here are fortunately from one direction practically the whole year. Provision should be made for the free entrance of the breeze to every room. Plenty of wide porches are needed and greatly hasten convalescence. Where possible, beds can be placed on the balconies to advantage. The almost universal plan of a central open space or patio seems to give excellent results in favoring free circulation of air.

The extent and character of the work as well as its growth are shown in the following statistics for 1907, the first year for which the complete figures are available, and those for 1916:

	1907	1916
Patients treated in hospital	454	744
Patients treated in dispensary	6,687	29,686
Out-patients visited	204	247
Total patients treated during year	7,266	30,677
Operations performed	284	796
Days of hospital treatment:		
A. In wards—Men	3,354	4,209
Women	3,108	3,619
Children	1,030	2,914
B. In private rooms—		
Men	1,622	1,171
Women	1,290	1,778
Total	10,404	13,691

Among the diseases treated uncinariasis easily holds first place. When its presence was discovered on the island, about 90 percent of the people living in the country districts were affected. Recent investigation has shown that this has been reduced about one-half. While rarely fatal in itself, it greatly decreases the amount of work which can be performed by the individual affected and predisposes to other diseases. Among the poor, lack of proper care of the mouth and teeth leads to early decay and pyorrhea. These conditions, with insufficient, improper, and poorly prepared food, produce disturbances of gastric and intestinal digestion and are the causes, direct or predisposing, of numerous intestinal infections. Dysentery, bacillary and amebic, is of frequent occurrence. Ulcer and cancer of stomach and intestine, while found, seem less common than might be expected. Many cases of tropical sprue are found, almost entirely near the coast. It seems relatively more frequent among Americans than among Porto Ricans. A specific monilia which has been isolated from cases by Dr. B. K. Ashford seems to be the active infective organism. Pneumonia is rare, but bronchitis and bronchial asthma are common. Tuberculosis is widespread, especially the glandular and pulmonary forms. Bone and joint tuberculosis is common among the children. Microfilaria are found in the blood in from 6 to 10 percent of the people. In the majority of cases this does not seem to be associated with symptoms. Superficial lymphangitis and adenitis are common, and elephantiasis is frequently seen. In some of these cases filaria are present, though the active causative agent is undoubtedly bacterial. There is probably a relation of symbiosis between the bacteria and the filaria. Malaria occurs in many parts of the island, and is usually of the tertian form, though the estivo-autumnal is found. Venereal disease is widely prevalent. A few cases of pellagra are found, and beriberi is occasionally seen. Leprosy occurs, and about forty cases are segregated on a small island in San Juan harbor. In addition to all these, the ordinary medical diseases are treated as in similar hospital and dispensary work in the United States.

The last statement holds also as regards surgical conditions. Among the men, hydrocele and hernia are especially common. The former is often associated with elephantiasis of the scrotum, sometimes forming large tumors. One such tumor removed several years ago weighed 20 pounds. Among the women pelvic infections are frequently found, and extensive lacerations of the pelvic floor with complete prolapse of the uterus. Practically all the obstetrics among the poor is

done by midwives, of whom very few have adequate training. Carcinoma of the cervix uteri is rather frequent and usually inoperable before medical advice is sought. Owing to the lack of facilities for doing surgery elsewhere, the majority of the cases admitted to the hospital are surgical.

Of the 45 beds in the hospital, 11 are in private rooms, and the other 34 are in wards for the poor, who can pay very little if anything for their treatment. At present the work is done almost entirely by the resident physician and three interns, two of whom are Porto Ricans and the other an American. The service affords an excellent opportunity of becoming familiar with tropical diseases as well as obtaining general medical and surgical training. Under four American graduate nurses a training school with about twenty Porto Rican pupil nurses is conducted. In a land where only a few years ago a trained nurse was unknown, the demand for their services greatly exceeds the supply. A department of district nursing has also been established, and valuable pioneer work done in that direction.

Finally, the work is missionary, and religious services and Bible distribution are considered an essential part of the work, that the soul may be ministered to and healed as well as the body.

HOW A REAL HOSPITAL STARTED AND GREW

Small Group of New York Women Improvise Care and Treatment of "After-Care" Poliomyelitis Cases—Small Facilities Put to Large Use—A Hint to Others Who Are Anxious to Identify Themselves With Helpful Work

By LUCY OSBORNE WIGHT, M. D., Physician to the Day Home and School for Crippled Children; Professor of Electrotherapeutics, New York Medical College and Hospital for Women, New York

SOME sixteen years ago, a small group of women of the Lenox Avenue Unitarian Church, led and inspired by Mrs. Merle St. Croix Wright, established a day school and summer home for crippled children. Until then no educational facilities were available for the crippled child who was too poor to pay for private instruction, and there was no place for recreation or summer outing. This work has been carried on successfully all these years, and many a cripple today owes his ability to work and compete with the rest of the world to the faithful pioneer effort of this small and unobtrusive band of women.

When the recent epidemic of infantile paralysis began to assume such terrifying proportions, an idea that had long been fermenting in my mind took definite shape. At an informal meeting called the latter part of last July, I laid this scheme before the few directors then in town and readily convinced them of the desperate need that would soon arise for a permanent convalescent home for children soon to be discharged from the hospitals.

Having worked for years in the Orthopedic Dispensary, I knew there would be many such children with homes so wretched that, no matter what treatment facilities might be provided by clinics and dispensaries, the home conditions would preclude any chance for recovery. We have had a wonderful nucleus for such a scheme. The Adee House in Pelham Bay Park, given us by the city for a summer home, was ours for the next five years. Why not enlarge the scope of our work and endeavor to found and establish a permanent convalescent home for the victims of infantile paralysis? For years we have been caring for cripples; why not now do something to prevent some child from becoming a cripple?

The proposal met with a most enthusiastic response. An immediate appeal for funds was sent out (we were the first, by the way, to appear in the public print and show the need of after-care), and the response was hearty and generous. To our great disappointment we found that the Adee House, so ideal in the summer, was unfit for winter use; there were no adequate heating or lighting facilities and it would require a large sum of money to install this plant. We applied to the city officials to do this for us, but so far without avail. Nothing daunted, however, and in view of the dire need, we decided to begin our work, even if on a smaller scale than originally intended. I remodeled the upper story of my own house and the "Temporary Convalescent Hospital of the Day Home and School for Crippled Children" was opened November 14, 1916. Again, we were the first to provide this means of after-care.

It is a well-known fact that the convalescent stage of this disease, (consisting of the first two years following the onset) is the most important and crucial period, that in which the greatest gain in the matter of ultimate function is attained, in which most deformities can be prevented, and in which the majority of muscles that are only weakened but not paralyzed can be restored with skill-

ful training and care to their ultimate degree of function.

The eight beds allowed by our limited budget were soon filled by the little victims in varying stages of paralysis. Discharged from the hospitals, the acute stage passed, danger of infection no longer existing, they had been returned to their utterly wretched homes and left to their fate. The dispensary treatment that might have been theirs would be of no avail—in fact, would defeat its own ends. What good to bring a hungry, insufficiently clad child to the clinic, treat, stimulate and fatigue it, then return it to its tenement, where it has neither warmth, nor quiet, nor even proper food? On account of their helpless condition and the prolonged treatment required, there was *no* institution that would accept these children.

It is a matter of intense regret that our space and means are so limited. Hardly a day passes that we are not implored and importuned to take another child, and, although there is room for only eight, we have stretched our capacity and taken in a ninth child badly paralyzed and sadly abused by drunken parents. The ages vary from 2 to 7 years. They are all severe cases with many muscles involved, and the prognosis swings from "fair" to "very poor." Barely three months have elapsed, yet, if the test of anything is satisfaction, we are completely satisfied. The change in the general condition of these children is almost miraculous. It is too early to speak of improvement in the disease, but even here the improvement is as marked as it is unexpected.

Dr. Gibney, at a recent meeting of the After-Treatment Committee, outlined the equipment necessary for a hospital or dispensary treating anterior poliomyelitis cases as follows: an orthopedic surgeon, a neurologist, a pediatrist, an electrotherapeutist, masseuses, trained nurses, a specialist in muscle training, and a complete electrotherapeutic outfit. These plans and specifications we meet fully. Dr. Benjamin P. Farrell is our orthopedic surgeon. Dr. Helene Correll Lowenstein, for more than eighteen years neurologist of the Orthopedic Hospital and Dispensary, one of our directors, is invaluable, and regularly inspects and treats each child and assists me in applying splints, etc. Dr. Walter Whitcomb Strang, our pediatrist, visits the children at regular intervals. Electricity, radiant light baths, massage, and muscle training are given by me or under my constant personal supervision. We have two trained orthopedic nurses.

The officers of the important Committee on After-Care of Infantile Paralysis are following with the greatest interest and sympathy our endeavor, and, being convinced of the necessity and practicability or our scheme, are extending all the aid in their power, providing us with splints, braces and appliances when needed.

It is an interesting fact that no home or hospital exists where children stricken with this disease can find sanctuary with care and treatment. The tuberculous child is well looked out for; the poor infantile paralysis case has nowhere to go. This disease, like the poor, is always with us, and each summer brings its regular quota. Dr. Flexner warns us that another serious epidemic is threatened next year. Happily we do not often have such a blasting epidemic as this one, leaving over six thousand children to be cared for by the benevolent of this generous city.

Although our hospital is so small and our effort so intensive, I feel more than ever justified in having launched this ambitious attempt to establish a convalescent home where these poor little atoms, caught in the vicious circle of poverty and disease, may get the care necessary in the first two crucial years to insure them the minimum instead of the maximum amount of deformity inevitably theirs, left as they are to the inability, ignorance, and indifference of their parents.

If, then, we succeed, we shall have the proud distinction of being the first in this country to see the need of and to establish such a constructive and imperatively needed work for the unfortunate victims of the most cruel fate that can strike an innocent child, infantile paralysis.

Maternity Lectures for Chinese Mothers-in-Law

The mother-in-law is a factor of immense importance still in China; this is clear from a little story told by Miss J. A. Clouting in the *China Medical Journal.* Pioneer hospital work in Szechwan was hampered by the absence on furlough of the only C. M. S. doctor. The question how to employ the time with greatest benefit to the native population was answered by the idea of giving a course of maternity lectures to women. The subjects were: (1) cleanliness of house and patient; (2) cleanliness of attendant; (3) the human body; (4) normal labor; (5-6) difficult labors; (7) hemorrhage; (8) care of the child. The women were deeply interested, and old women who "had never exhibited any intelligence" listened eagerly, and begged the brighter ones to explain to them later.

In lecturing, Miss Clouting adds, one has to be careful of tones. "Instructing them how to perform artificial respiration, there was a smile on many faces as one not very intelligent mother-in-law repeated gravely after me, 'One, two, three, *dead!*' as she extended the infant's arms and brought them slowly down again. We then changed the fourth character so that she said in Chinese, 'One, two, three, *alive!*' and the smiles changed to a hearty laugh."

Success is for all who are willing to pay the price of admission, but there are no complimentary tickets.—A. Pike.

A SANATORIUM WITH A HOMELIKE ATMOSPHERE

Green Gables, Lincoln, Neb., the Life Work of Dr. B. F. Bailey—Family Spirit Preserved in the Institution—A Hospital and Home That Is Still in Development

BY A FIELD EDITOR OF "THE MODERN HOSPITAL"

TO create a sanatorium in which mental as well as ordinary medical cases are cared for, to manage it successfully, and at the same time to preserve the homelike spirit in it, is a task requiring high ideals, much tact, and great insight into human nature. It is, therefore, of interest to examine some of the features of an institution in which success of this character has been achieved—namely, "Green Gables," the Dr. B. F. Bailey Sanatorium at Lincoln, Neb. When Dr. Bailey came to Nebraska from New Hampshire, the need of an institution to care properly for sick people was very evident.

Fig. 1. Green Gables. Main building.

In 1901 he bought twenty-five acres four miles from town and started a sanatorium modest in equipment and limited in capacity. Gradually the work grew until a building was finished which can comfortably care for 40 patients as well as the medical staff and the nurses. Being a New Englander, Dr. Bailey named the building "Green Gables" (Fig. 1), and the red walls and green roofs of the various buildings are landmarks for a great distance.

The interior of the building as it stands today is modern and complete. The rooms are light, sanitary, and nicely furnished. Now and then the biblical allusion to the "chamber on the wall" seems apposite, as the sanatorium is often so crowded that original means must be used for caring for people who come unannounced and cannot be turned away.

In many ways this is just like any other sanatorium, but there are some few things in which it seems to be different. There is an atmosphere of home life and family spirit in the place. Perhaps the general sitting room, with its piano, victrola, and card table, are aids. The men have a pool table, card table, and piano in the amusement room, and these prove to be great melting pots, as they dispel caste and formality. The large family dining room also draws the patients closer, and the convalescents enjoy having their meals together. As the sanatorium is in the country, friends and families are welcome if they drop in at meal time.

While Dr. Bailey does not make a hobby of diets, he has fitted up a diet kitchen (Fig. 2) which is adequate for every demand, and made

Fig. 2. Green Gables. Diet kitchen.

a careful selection of equipment. The electric stove renders cooking a delight, and other conveniences make homely tasks a pleasure. A graduate dietitian has the direction of the work. The roentgenology room is perfectly fitted, and excellent work is done in that department. A great many x-ray treatments are given and good results are obtained.

From "Green Gables" there is a clean cinder path and driveway to the building for mental cases. It is called "Rest Cottage" (Fig. 3), which seems an appropriate name for the mentally and physically weary. The original building was put up in 1905, and in 1912 another fireproof brick building was added, connected with the first one by sun parlors. It has 45 beds. In the corridor on the second floor is a piano and a small victrola which daily makes the rounds of the three floors. The patients spend hours out-of-doors each day, and such of them as are able and enjoy it are

Fig. 3. Green Gables. Rest Cottage.

given light work on the grounds, as weeding the prevalent dandelions or watering flowers. The women do small tasks in the house, not enough to permit dispensing with a servant, but enough to give them a fair amount of exercise.

On the first floor of "Rest Cottage" are the dining rooms and kitchen. They are just newly painted, as is the whole cottage, and are very bright, attractive rooms. There are separate dining rooms for the men and women. The cottage has the appearance of light, which perhaps is a prophetic prognosis for the mentally darkened within. The walls are white and the furniture is white. It is also possible to wash everything in the rooms. There are no dark corners, and yet there is not a glare of light.

As the institution is in the country, there are the various houses for the farm animals. The Holstein herd is inspected by the Government, and is cared for in a sanitary barn with a cement floor and separate milking stalls. The laundry building has all the electrical equipment needed to do the work, the second floor being used for servants' quarters.

The training school has forty nurses and six graduates at the head of the various departments. Young men as well as young women are trained; this does away with employing orderlies and gives a better working atmosphere, besides supplying a necessary addition to the nursing profession. To supplement the training here, six months affiliated work is given at Cook County Hospital, Chicago. In that way experience is given in every nursing branch from mental to contagious cases, besides the work of the average hospital.

The sanatorium park is unusually pretty, nearly all the trees having been set out since Dr. Bailey came here. This is a prairie country, and few trees are native, so each year new ones must be added, which will live as a monument of increasing beauty long after those who are building and planning now have gone, and fitting memorials, more beautiful than bronze or granite, while they are living.

It was Dr. Bailey's intention when he opened the institution to have a place restful and surrounded with the atmosphere of a great home, yet lacking nothing that might be needed.

STORY OF AN INSTITUTIONAL LIBRARY

Developed From Small Beginnings and Conducted by Patients at Low Cost—Paid for Like Other Essentials—Gives Work-Cure to Many

By MARGUERITE H. BURGOYNE, Occupation and Recreation Manager Burke Foundation, White Plains, N. Y.

THOSE writing and speaking of the institution library usually insist that a trained and high-salaried librarian be placed in charge and given no other duties, if success is to be attained. Perhaps this preachment has, on the whole, done more harm than good, by deterring many institutions from starting and doing fairly well with such means and facilities as are readily available.

Nearly every institution, large or small, caring for human beings in whatsoever way, should have a library. In most of them the addition of another department with an important head is clearly impracticable—for organization as well as financial and other reasons. Other large needs are generally and justly regarded more pressing. But there should be the library, and it should not wait for donated books (so often unsuitable and hard to be got out of the way), or special gift of money, or large room with open fire, or skilled librarian.

It is, of course, agreed that the latter is essential and productive in many large places, especially where the inmates have permanent or long residence, and that there is room for much extension of expert library service. The traveling library will help here and there, but the rank and file of institutions will have libraries, if at all, through modest beginnings, in unideal spaces, with part and short-time supervision by an untrained but interested employee doing other things—and they will prove in every case to be worth while and to grow.

The story of one such small-beginning and continuously inexpensive but effective library may be of value. Our first group of forty convalescents found 150 books here, on shelves made by an employee, in a room used partly for other purposes, but advertised as "library" and run with a system. A woman patient, moderately neurasthenic and needing occupation and long stay, was put in charge two hours a day as "librarian." Patients have been thus in charge regularly since. Some act as assistant librarians at times. Afternoon hours were soon added. Several patients are happily busied frequently in cleaning and repairing books, arranging, classifying, etc. Another and considerable work-cure is thus added. Nearly all convalescent conditions have been represented, but nervous and mental debilities are selected most frequently and with marked benefit.

It is considered an honorable and favored position. Book-knowledge, exceptional education, etc., have not been of first consideration, but rather gain in health for the particular patient. Persons of average good sense from the workplaces of the city have served satisfactorily. One breaks in another as successor.

There has never been question of amount of money we might spend; yet this modest way was chosen, knowing the continuing value of right balance of departments, which only time and trial can bring about, and we wished the patients (240 now, with 90 employees) to determine and form the library in the main. The patient-librarians and staff-members make notes of queries and suggestions, and lists of book-needs result. Now, after two years, there are 700 volumes, besides effective art and library table books, a few reference works, etc.

The average cost is less than 30 cents a book. All have been bought second hand at one store in

Fig. 1. The morning paper in winter sun.

the near city, which does a large catalogue business with public and other libraries in many parts of the country. Our selections have been made from its shelves by two or three interested members of our staff. The cooperative personal interest of this firm has been valuable; we are frequently informed of good lots from which to make first choice, and the firm watches to satisfy our mailed lists of desires in titles, bindings, illustrations, etc.

These books thus personally chosen are lasting well, though the service is hard (average forty books a day taken to cottages, besides staff and library reading, etc.) Patients go to the shelves and handle freely. In fact, visiting the library (a considerable outdoor walk) is valuable convalescent diversional treatment. Traveling book collections in the cottages have been thoroughly tried and given up because of ill use, misplacement, lack of appreciation, etc.

Our books are three-fourths standard modern fiction; "detective stories," etc., give special joy. Our experience is like that of others, except that these short-term, fairly ill and nerve-weak people like many volumes of short stories, and neglect even more than usual our intruded small percentage of "solid," "religious," and "cultural" reading. They read to each other, and in groups

Fig. 2. Coming back from the library.

(most wholesomely), are much out of doors, and "talk it over" abundantly. The moderate call for reading in foreign languages is being met.

Practically no books have been carried away by these eight thousand quickly passing folks of all races and kinds (unexpectedly gratifying this). Employees use the library increasingly, and some purchases are being made for their needs. New volumes of note and various kindred things are advertised on bulletin boards; this helps.

The system is the usual pasted-in book pocket and card with a small card-index by authors and

Fig. 3. They read to each other, and in groups are much outdoors.

titles, for the librarian's general use. Our branch institutions, at a distance, have each small separate libraries. The libraries are under the department of occupation and recreation.

The growing and highly appreciated little library has just moved to better quarters in one end of the assembly hall. Patients made the new cases, framed pictures, seated chairs, and generally equipped the place. Sliding doors close it off and make it variously usable without affecting

assembly hours. Folding armchairs and folding tables prove praticable. Men and women meet agreeably here for quiet acquaintance.

We think sometimes that our daily papers (morning and afternoon) are more important than the books. The institution supplies them in four languages, at average cost of $14 a month, and subscribes for a dozen magazines. Gifts of old periodicals and illustrated journals overburden us, as usual. The total cost of books is $200; about $200 is expended yearly for paper and magazines (this is because of high peculiar needs). The overhead cost is negligible. Here, then, is a young, small, but widely functioning library, costing comparatively little, paid for frankly like food or nursing or any other institution essential, allowed to grow slowly from experience as a vital part of the organization, and giving considerable occupation-therapy in addition to usual service.

Along with other beginners, we would express appreciation of the helpful pioneer work done and so well spread by Miss Edith K. Jones of Waverly, Mass.

SKIM-MILK AS FOOD

A Cheap, Nutritious, and Digestible Food too Often Relegated to the Feeding of Calves, Pigs, and Chickens

By JOHN PHILLIPS STREET, Chemist, Connecticut Agricultural Experiment Station, New Haven, Conn.

ANIMAL albumin is a most important factor in the food of man; it is generally accepted that we should take one-third of our protein requirement in this form. The chief sources of supply of animal protein are meat, eggs, milk, and the various milk products. Meat has the distinct advantage of being the only form of animal food that man can take continuously with pleasure in quantities sufficient to satisfy the body's demands for albumin. On the other hand, the consumption of a sufficient quantity of milk sooner or later causes a distaste for it with most people. A reliance on meat for our needed protein supply offers certain serious problems, namely, its expensiveness, the difficulty of excluding disease, and the alterations in flavor and digestibility shown in the various drying, pickling, and smoking processes employed.

A substitute for meat albumin in our daily ration is therefore highly desirable. Whole milk naturally suggests itself as a relatively cheap source of animal protein, but the often condemned, rarely appreciated skim-milk is even cheaper for this purpose, and in some cases is actually to be preferred. As Robert Hutchinson says, "Its great value in the dietary of persons to whom economy is of importance cannot be overestimated."

Skim-milk is the lower layer, comparatively poor in fat, which remains when the cream is removed from milk by skimming or by mechanical means. Its composition naturally is affected by the process used for its production. In the shallow-pan method the solids (mostly proteins and milk sugar) will range from 9.75 to 10.50 percent with fat from 0.5 to 1 percent; in the deep-pan method the solids from 9.5 to 10.25 percent with fat from 0.4 to 1 percent; while in the centrifugal system the solids may range from 9.25 to 10 percent with fat from 0.35 to 0.45 percent; by the modern separator the fat content may be reduced to less than 0.1 percent.

An accurate descriptive definition of skim-milk, therefore, is by no means a simple problem, and the difficulty is increased when one considers the legal significance of the term "skim-milk" in the laws of the various states. In general, a milk is considered as skim-milk if any part of the fat naturally occurring in it has been removed. In other words, a Jersey milk containing normally, say, 5 percent of fat, in which the fat for competitive reasons or otherwise has been reduced to 3.5 percent, under the laws of most of the states is just as much skim-milk as one in which the separator process has reduced the fat content to a few tenths of one percent. Obviously unfair as such a classification is, the great state of New York reaches the climax of legislative absurdity when it provides that milk from which any part of the cream has been removed is adulterated milk, and then without the slightest hesitation declares that "all adulterated milk shall be deemed unclean, unhealthy, impure, and unwholesome." In a later section of the New York law we are presented with the anomalous situation of skim-milk—that is, "adulterated" milk — being "unclean, unhealthy, impure, and unwholesome" in New York and Kings Counties (the cities of New York and Brooklyn), whereas the same product when sold in other counties (provided it is produced in said county or the adjoining county) may be "clean, pure, healthy, wholesome, and unadulterated." The Massachusetts law heads one section "Sale of Adulterated, Diseased or Skimmed Milk." The Iowa law classes together "unclean, impure, unhealthy, adulterated, unwholesome and skimmed

milk." Surely skim-milk is a pariah among food products.

The fact remains, however, that, in spite of laws and regulations, in both the official and the popular conception, skim-milk is milk from which most of its fat has been removed. It is this removal of fat, this apparent debasing of the product, that has brought upon skim-milk undeserved and unintelligent opprobrium. I wish it clearly understood that in my championship of skim-milk as a human food I want it to be sold on no other basis than on its merits. Skim-milk of course must not be sold as whole milk, or skim-milk cheese as full cream cheese, or frozen condensed skim-milk as ice cream. But here we have a valuable food product, a cheap source of animal protein in a peculiarly digestible form, a most valuable culinary adjunct, whose sale is discouraged in practically every state of the Union, whose sale is prohibited under any circumstances in the great cities of New York and Brooklyn, and whose sale when permitted is hampered by such restrictions as to discourage both the seller and the buyer of the product.

It is a truism that fat is not the only valuable, or even the most valuable, ingredient of milk. In normal milk the amount of milk-sugar exceeds the fat, and the protein is only a little lower, and in skim-milk, of course, the percentages of protein and lactose are higher than in whole milk. And yet, in spite of the presence of these valuable digestible food nutrients, the laws, the food officials, and the public banish skim-milk from the table and the kitchen to the farmyard as food for pampered calves, pigs, and chickens.

The annual output of skim-milk in this country is about 30 billion pounds, yielding 1,020 million pounds of protein, 90 million pounds of fat and 1,530 pounds of milk-sugar. It has been pointed out that in normal times in Germany 25 cents will buy 538 food units in the form of beef, 552 in poultry, 1,615 in whole milk, 2,311 in buttermilk, and 2,562 in skim-milk, and yet with us this valuable product is largely calf food, pig food, or chicken food. So great is the popular prejudice against skim-milk as human food that in many localities it can be purchased only with extreme difficulty. For instance, in a recent Canadian inspection, although the inspectors were instructed to take skim-milk wherever offered for sale, only one sample was taken in 367 collections.

Skim-milk may be offered to the consumer in various forms, as the straight product itself, as dried skim-milk, as condensed skim-milk, as skim-milk cheese, or as one of the various commercial casein preparations. Each of these is valuable in its own field. As a beverage skim-milk is not to be despised, if we can rid ourselves of our foolish prejudice against using a cheap food product, but perhaps its widest field of usefulness is for culinary purposes. In our usual mixed diet the required amount of fat is generally supplied by meat, butter, lard, vegetable oils, etc., so that the deficiency of skim-milk in fat is not of such great importance. Of all our food ingredients, protein is the most expensive and the one most generally lacking in cheap meals, and this ingredient skim-milk offers in an extremely cheap and digestible form. Furthermore, it is the common experience of workers among the poor that the greatest difficulty in the preparation of cheap dietaries is to secure foods supplying adequate amounts of lime, an especially essential constituent in the dietaries of children, and this deficiency skim-milk is admirably adapted to supply.

There are few instances in the kitchen in which skim-milk cannot be substituted for whole milk, and in certain cases the resultant product is improved by the substitution. Its use in the making of bread not only increases the nutritive value of the bread but also increases the yield of bread from a given quantity of flour. Skim-milk is useful not only in bread-making, but also in the preparation of potato, celery, tomato, pea, and corn soups; in fish, lobster, clam, and oyster chowders, bisques, and stews; in all kinds of quick biscuit, griddle cakes, cakes, etc.; in rice and Indian puddings, custards, squash and pumpkin pies, chocolate, cocoa, sherbets, ices, and in a hundred and one different ways. In the case of cake, if the skim-milk is sour, so much the better, as only half of the acid leavening agent called for in the recipe will be needed.

In the older methods of cream separation the resultant skim-milk was liable to have acquired considerable age before reaching the consumer, which perhaps explains in part its general ill repute. The use of the modern separator, however, in great measure has remedied this difficulty. It is generally held, and I believe quite properly, that skim-milk is not a desirable food for infants because of its deficiency in fat and because of its lack of freshness. While the latter objection is not so important with adults, a thorough cooking perhaps is as a rule desirable.

What is the food value of skim-milk as compared with other food products? Two and a half quarts furnish the same amount of protein and nearly the same fuel value as a pound of round steak. Expressing the relation in calories per pound, skim-milk yields 170 calories, or over half the amount supplied by whole milk; it yields about the same calories as sea bass, black fish, codfish, buttermilk, oatmeal gruel, certain fresh vegeta-

bles (such as string beans, beets, carrots and corn), oranges, strawberries, clam chowder, crabs, and tomato soup; more than twice as many calories as round clams, celery, cucumbers, lettuce, pumpkin, rhubarb, asparagus, brussels sprouts, and muskmelons; and from three to four times as many calories as oysters and bouillon. Surely such a source of nutriment is not to be despised, and the argument for its use becomes even stronger when cost is considered. At normal prices skim-milk furnishes protein more cheaply than any common animal food except salt fish; it is, however, a dearer product than most vegetable foods, but over these it has the important advantage of having no waste, of requiring little time for preparation, and of being more digestible.

A comparison made in a Farmers' Bulletin of the U. S. Dept. of Agriculture between a lunch composed of bread and skim-milk and an ordinary restaurant lunch, shows well the nutritive and economic value of this product. Eight ounces of bread and one pint of skim-milk yields 859 calories with .09 pound of protein for 5 cents, while a lunch of 8 ounces of soup, 2 ounces of beef, 2 ounces of potatoes, 1 ounce of turnips, 3 ounces of bread, ½ ounce of butter and 1½ ounces of coffee with milk and sugar yields about the same number of calories, 865, with 1 20 pound of protein, for from 15 to 20 cents. In other words, a simple bread and skim-milk lunch yields about one-third the required daily nutriment at a cost of only 5 cents. In the penny luncheons supplied to Boston school children a very successful combination was skim-milk, bread and butter. The value of skim-milk in dietaries for large numbers of people, as in public institutions, is evidently great.

The second form in which skim-milk may be used is in the form of milk powders. These milk powders, of course, may represent milk of different degrees of skimming. A typical partially skimmed milk powder shows water 5, fat 16, protein 34, ash 7, and lactose 38 percent, yielding 1,957 calories a pound. Skim-milk powders, on the other hand, show water 3 to 14, fat 1 to 3.5, protein 29 to 36, ash 7 to 8, and lactose 44.5 to 55 percent. A typical American skim-milk powder, Klim, analyzed by myself, showed water 2.6, fat 2.2, protein 37.1, ash 8.1, and lactose 50 percent, yielding 1,669 calories a pound, at a cost of 25 cents. Aside from the convenience in use of these powders in the home or in the camp, their keeping qualities and freedom from bacterial contamination still further emphasize their usefulness as food products.

Skim-milk cheese is another form in which skim-milk may come into popular use. In the past there were doubtless grave abuses in the sale of skimmed or partially skimmed milk cheese as full milk cheese. This form of commercial dishonesty, however, should not cause us to lose sight of the great nutrient value of cheese of this sort. As a matter of fact, in the manufacture of certain varieties of cheese the use of skimmed or partially skimmed milk is necessary to secure a cheese of high quality. In the manufacture of American Swiss cheese, for instance, it is often impossible to use whole milk and obtain a product that can compete in quality with the imported product. Such varieties as Backstein, Brie, camembert, Cottage, Edam, Gouda, Limburg, Issigny, Neufchatel, Parmesan, sap sago, and Swiss are commonly, if not always, made of skimmed or partially skimmed milk.

Condensed skim-milk is still another commercial form in which this food may be purchased. In some states its sale is prohibited altogether; in others a label is required stating that it is not intended for infants' use, but in most of these states it may be sold under its true name. There is no reason why this product should not find a wide use in the home and in institutions. Certainly it has a valuable part to play in the feeding of our people, and restrictions as to its sale should not be so prohibitive as to drive it from the retail market and limit its sale almost entirely to confectioners, bakers, and ice-cream manufacturers, as is the case at present. The accompanying analyses made in my laboratory during the past year illustrates the composition of the sweetened product.

ANALYSES OF COMMERCIAL BRANDS OF SWEETENED CONDENSED SKIM-MILK

	Water	Protein	Ash	Fat	Sucrose	Lactose	Calories per lb.
Target Brand	26.32	8.74	1.90	1.04	38.63	23.37	1310
Van Tromp Brand	29.80	9.57	2.19	0.61	37.83	20.00	1238
Marvel Brand	28.60	8.29	1.86	0.67	48.22	12.36	1266
Hires' Square Brand	28.34	8.36	1.71	0.86	47.45	13.28	1277

The fourth class of skim-milk preparations to which attention should be called consists of the casein products. These are not only fat-free, but lactose-free as well, and have already been discussed by me in an earlier paper.[1] The requirements of a proper substitute for meat albumin in our daily ration are that it must be relatively cheap; it must be tasteless, inodorous, and, for most purposes of the character of a flour, free from micro-organisms; it must be capable of keeping for reasonable lengths of time without undergoing decomposition; and, finally, it must be suitable to and assimilable by the organism when taken in considerable amount. Casein preparations seem to meet many of these require-

[1] Condensed Milk and Casein Preparations, THE MODERN HOSPITAL, November, 1915, p. 333.

ments. Accordingly we find on the market such preparations as Plasmon, Sanatogen, Casoid Flour, Nutrium, Galactogen, Lactrine, and other products of this nature. The great difficulty with most of these is their expensiveness. Some of them are advertised in regular "patent medicine" style, with the usual extravagant claims as to their curative and reconstructive powers. The user of these preparations should remember that whatever virtues they possess from the standpoint of nutriment lies in the casein they contain, and the mere calling of casein by a fancy name and charging from forty to fifty times the price for which commercial casein may be purchased by no means warrants the testimonials which apparently flow so easily from the pens of novelists, poets, journalists, statesmen, and other persons of similarly high scientific authority.

STANDARDIZATION OF HOSPITALS—INTRODUCTION AND CLASSIFICATION[1]

Items That Enter Into the Problem—Financial Support, Architecture, Equipment, Organization, and Administration—Pathology and Asepsis—Roentgenology—Nursing—Dietetics—Accounting and Records—Out-Patient Work

By JOHN ALLAN HORNSBY, M. D., Chicago, With the Collaboration of Various Expert Specialists

THERE are three reasons for the standardization of hospitals: (1) to enable trustees, medical staffs, and administrators to compare the work and methods in their own hospitals with what other hospitals are doing; (2) to enable donors and supporters of hospitals to judge of the efficiency and usefulness of the institutions in which they are interested; (3) to enable the public to judge of the efficiency of the service in any hospital in order that they may know whether to patronize it or not and whether they and their friends may have the right to expect competent care when they are sick.

The importance of standardization may be judged by the immense amount of work that has been given to it over a long period of years, and the difficulties surrounding the problem are to be judged by the comparative ineffectiveness of the work down to this time.

At its Atlantic City meeting in June, 1912, the Hospital Section of the American Medical Association appointed a committee to study the problem; in August of that same year the American Hospital Association appointed a similar committee for the same purpose, and, in order that the full effect of the resources of those two associations might be brought to bear for the benefit of this work, the same members were appointed for both committees, Dr. Henry M. Hurd being chairman of the committee of the Hospital Section of the American Medical Association, with Dr. F. A. Washburn and Dr. John A. Hornsby as the other members; Dr. Hornsby was made chairman of the committee of the American Hospital Association with Drs. Hurd and Washburn the other two members. In the spring of 1913 the Clinical Congress of Surgeons of North America appointed a large committee for the same purpose, Dr. E. C. Codman of Boston being chairman.

These three committees have reported progress to their various associations annually since that time, but in fact all three committees have been marking time, as it were, because there seemed to exist insuperable obstacles to any attempt to approach the problem in detail.

Two years ago the Public Health Service of the government was petitioned to undertake an investigation of the hospitals for purposes of standardization, but the Federal Government and Congress felt that this was a work for private enterprise and declined to undertake it.

The Carnegie and Rockefeller Foundations have been asked to provide the funds and undertake the work, and it seemed at one time that the Carnegie Foundation was on the point of appropriating funds for the purpose, but something interfered.

In the meantime, the Council on Medical Education of the American Medical Association determined that a classification of the hospitals was necessary in order that medical schools and newly graduated physicians might have data on which to frame a judgment as to those hospitals competent to give interns an efficient postgraduate training; committees were appointed in each state with a view to attempt to make some investigation in the hospitals of the respective states; and the secretary of the Council on Medical Education has reported annually a list of the hospitals adjudged competent to give an efficient intern training. These lists, however, were made up from data so incomplete, necessarily, that they have not served any very good purpose, but this activity on the whole has brought some results as the other activities have also brought some.

At the September (1916) meeting of the American Hospital Association at Philadelphia, Dr.

[1] This is the first in a series of papers dealing with the items in standardization; next month will be taken up "University or Teaching Hospitals" and what may reasonably be expected of them. Names of collaborators will be published next month.

John G. Bowman, director of the American College of Surgeons, read a paper introducing this problem and stating that the American College now had a fund available for the purpose of making some concerted and definite attempt to secure some hospital standards; a committee of the association was appointed at the instance of Dr. Bowman to collaborate in this proposed study, and Dr. Winford Smith, at the time president of the association, was made chairman.

Rev. Father Charles B. Moulinier, S. J., president of the Catholic Hospital Association, has announced that at the coming convention of that association set for June, the three days' convention is to be given over to a discussion of the problem of standardization in symposium form, and it is announced that Dr. John G. Bowman, director of the American College of Surgeons, is to state the problem for discussion.

This brings us to the present moment, when it seems likely that a constructive system of standardization is to be attempted if not achieved.

It is the purpose of this series of papers, not to settle anything concerning standardization, but to discuss the problem in the hope that a sufficient number of thinking people interested in hospital work will participate to have great weight in any final settlement that may come.

I have given a good deal of thought to this subject, and I am venturing to present a tentative classification of American hospitals for standardization purposes. This classification is no doubt faulty and will not be that eventually settled on, but it has the merit of being at least a text to be studied, a framework on which a permanent structure may be molded.

Classification of Hospitals for Purposes of Standardization

General Hospitals

Class I.—University or school hospitals—all sizes.

Class II.—Semipublic hospitals, large, 250 beds and over.

Class III.—Semipublic hospitals, medium-sized, 100 to 250 beds.

Class IV.—Semipublic hospitals, small, 50 to 100 beds.

Class V.—Semipublic community hospitals, small, 5 to 50 beds.

Class VI.—Public municipal hospitals, large.

Class VII.—Public municipal hospitals, small.

Class VIII.—Private general hospitals, small.

Class IX.—Private general sanatoriums.

Class X.—Industrial hospitals.

Special Hospitals

Class XI.—Public tuberculosis hospitals, large.

Class XII.—Public tuberculosis hospitals, small, 50 beds and less.

Class XIII.—Private tuberculosis sanatoriums.

Class XIV.—State hospitals for the insane and epileptics.

Class XV.—Private sanatoriums for mental and nervous diseases.

Class XVI.—Private sanatoriums for patients addicted to alcohol and narcotics.

Class XVII.—Infectious disease hospitals.

Class XVIII.—Maternity hospitals, large.

Class XIX.—Maternity hospitals, small.

Class XX.—Children's hospitals, large.

Class XXI.—Children's hospitals, small.

Class XXII.—Creches and day nurseries.

Class XXIII.—Convalescent homes and homes for incurables.

Class XXIV.—County farms and poorhouses.

Class XXV.—Skin and cancer hospitals.

Class XXVI.—Venereal hospitals.

Class XXVII.—Old people's homes.

Class XXVIII.—Homes for the blind, deaf and dumb.

Class XXIX.—Homes for orphans.

Class XXX.—Homes for defectives and incorrigibles.

In any study of standardization, many items must be considered: the financing of the hospital, indicating the permanence and substantial character of its support; the architecture of the hospital building; its equipment; the organization of its medical and of its administrative forces; and, finally, the competence of the various departments of the hospital to meet the demand of modern medicine in the care of the sick: the departments of pathology, roentgenology, nursing, dietetics, record-keeping and accounting; and we have now come upon a time when it becomes necessary that every hospital of every kind shall do certain out-patient, dispensary and follow-up work—so that this item also must be considered.

In order to make these papers as helpful as possible, I have invited the collaboration of a number of experts in the various directions of hospital work to participate with me in their preparation; the list of participants will be published later. It is the purpose to take up the hospitals under the foregoing classification and to summarize in as great detail as possible what we may have a right to expect in each class of hospitals under the various above-named items.

It is recognized that so large a number of classes of hospitals is unwieldy, but it is certainly impossible that we shall have a right to exact of a small hospital all elaborations of architecture, equipment, and service that we may hope for in large, metropolitan, richly endowed institutions; and we may not exact of a special hospital the completeness for diversified service that we may look for in a general hospital treating a great variety of diseases, under many different conditions.

The idea is to put every hospital in this country under one or the other of the above-mentioned classes, and to recite in this series of papers just what each of these classes of hospitals should have and do and be in order to meet the reason-

able demands of modern medicine for the care of the sick. It is proposed to number these classes of hospitals numerically. The hospitals themselves are intended to be marked A, B, or C, in accordance with the nearness of their approach to the ideal in the respective classes. Eventually, it may be considered even best to make points from 0 to 100 and to give a certain percentage value to each item in efficiency and to take away a certain percentage for deficiency in any of the items: for instance, the item "pathology" would be given a certain percentage of the total, and each of the other items would be given its percentage, so that in the final report on any hospital the investigator would not have a free hand in marking hospitals, but would be guided by restriction carefully detailed. In this way an investigator could be sent into each state or into each platted district in the expectation that results of their investigation would be comparable.

In the investigation reported upon the medical schools some years ago, the Rockefeller Foundation entrusted the work to one individual, and the markings thereby had a comparative value; but there are two hundred medical schools and some eight thousand hospitals, so that the individual judgment will be manifestly impossible in the case of hospitals.

In our paper next month we shall venture boldly upon a consideration of the first class of hospitals, namely, university or teaching hospitals.

ARCHITECTURE AND EQUIPMENT OF THE JORDAN HOSPITAL, PLYMOUTH, MASS.

Exceptionally Elaborate for a Small Hospital, This Institution Has Been Built and Equipped in Keeping With Demands in Far Larger and Costlier Plants

By CHARLES G. MIXTER, M. D., Surgeon, and HAROLD FIELD KELLOGG, Architect, Boston, Mass.

THE designing of a hospital of modest size for a small city or town is, in its way, as interesting as the planning of a large institution. The number of diseases rather than the number of patients determines the plan. Although medical and surgical patients may be admitted into the same ward, special buildings must be provided for contagious diseases. To keep the different communicable diseases apart, and yet to reduce the nursing force to a minimum for small hospitals, requires special planning. If a contagious ward is adequately isolated by fresh air and certain precautions are taken in the service, there is no reason why any general hospital should not include one or more contagious buildings. The administration of more than one building is necessarily that of an institution on a small scale. The matter of resident or visiting physicians depends largely on the local conditions. The arrangement of beds into wards and private rooms should be determined by the proportion of charity and paying patients to be admitted. The relative importance of the surgical branch should be considered and a space set aside for a suite of rooms absolutely independent from the rest of the hospital, so arranged that they are a unit within themselves. The kitchen should be so located that it will be not only central, but will facilitate a constant checking service by the superintendent or matron. The laundry is better at a distance, as well as the heating plant. With these points in mind, the group plan of the Jordan Hospital at Plymouth was laid out.

GENERAL PLAN

The future development and the existing buildings are shown on the group plan. The present contagious ward will be moved to its future location when the medical ward is built. The corridor connections will be continued to the new buildings. The present heating plant, laundry, and kitchen have been made adequate for the future.

INDIVIDUAL BUILDINGS

1. *Administration Building.*—The original Jordan Hospital has been altered into an administration building. In the basement are the general kitchens, which serve the whole group through covered passages. The ice boxes, general stores, and employees' dining room is also here. On the first floor are the offices, nurses' dining room, serving pantry, and sitting room. The second floor is given over to nurses and the third floor to the employees' bed rooms.

2. *Surgical Building.*—The surgical ward now used for medical and surgical cases has its long axis approximately north and south. In the basement are storage rooms, laboratory, dispensary, employees' toilets, elevator machinery, etc. On the first floor is the office of the "charge nurse," the waiting room, and a scrub-up room for visiting doctors, all near the front door. There are also seven private rooms, three semiprivate (or 2-bed) wards and two 3-bed wards. The private and semiprivate wards have closets. There are separate toilets for men and women, with a single bath. The diet kitchen is served by a hydraulic

lift. There are a linen closet, a medicine closet, and a utensil room. The electric elevator is in the center of the building opposite the main entrance. The second floor is, in the main, a duplicate of the first, except that the northern end is given over to the surgical suite—a group of seven rooms about an octagonal foyer, the eighth side being the entrance to the octagon. The third floor is unfinished, but so designed as to make rooms for nurses, or even patients if desired.

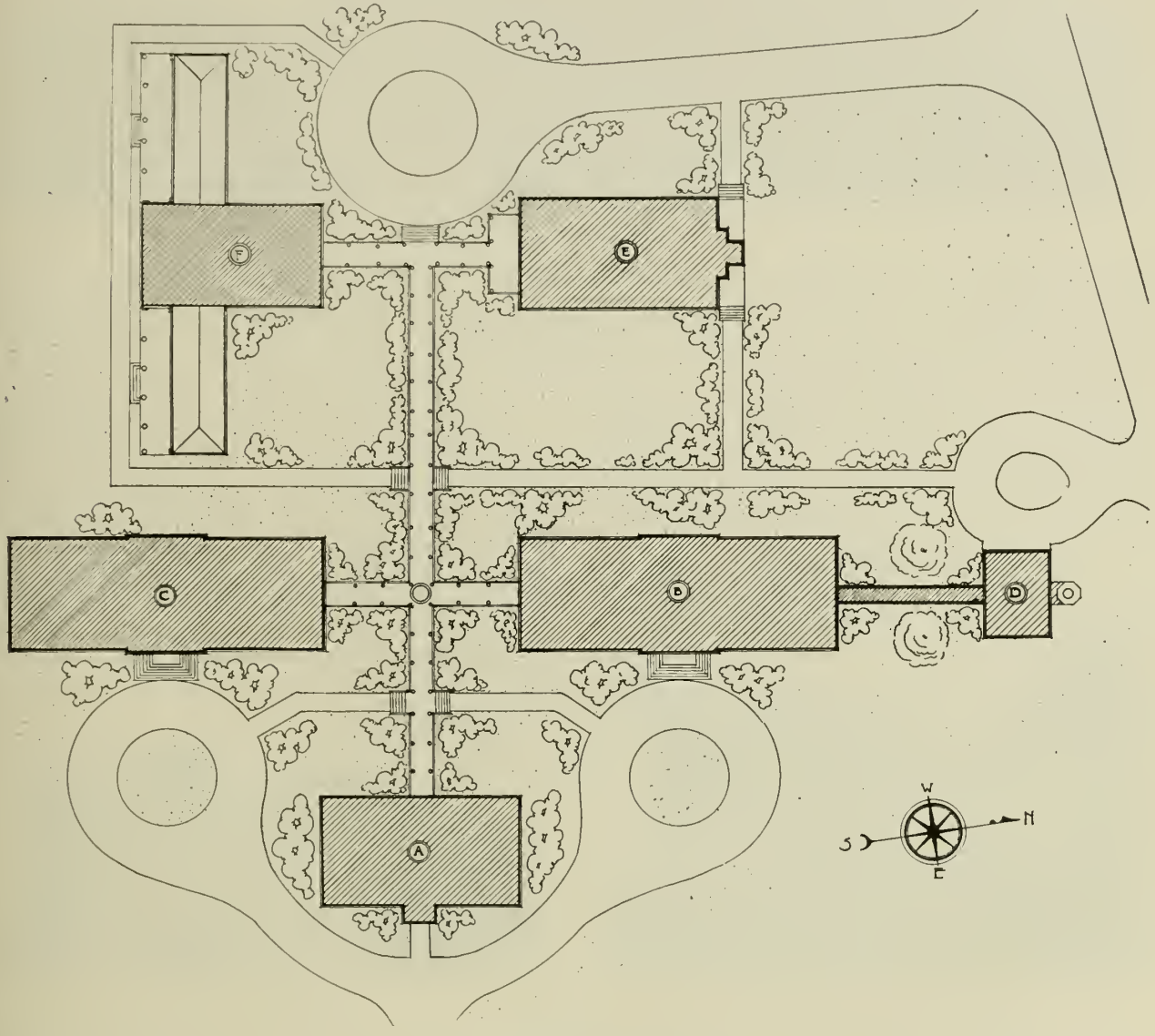

Fig. 1. Jordan Hospital. Ground plan.

A. Administration building.
B. Surgical ward.
C. Future medical ward.
D. Power house.
E. Contagious ward.
F. Future tuberculosis ward.

3. *Medical Building.*—The medical ward (not yet built) will be similar in general design to the surgical ward, except that, of course, the operating suite will be omitted. The foundations of the contagious building, which now stands on the site of the future medical ward, were made sufficiently heavy to support a brick building.

4. *Contagious Building.*—The contagious ward is only about two-thirds the length of the future medical building, but the same width. It is but one story high and of wood construction, to facilitate moving to its final location shown on the group plan. This building contains three separate hospitals—that is to say, three complete nursing units for three conmmunicable diseases, with no connection between them. Each has its own toilet facilities, diet kitchen, linen closet, sterilizer, etc. The basement contains two scrub-up and locker rooms, connected by two staircases with the large wards above. The third division is a private room for questionable cases under observation. Even this, however, has its own diet kitchen, toilet, sterilizer, and linen closet, and is not in any way connected with the rest of the building.

On each side of the building is a 7-bed ward, two private rooms, toilets, a diet kitchen, a linen closet, a utensil room, etc., and both sides are

Fig. 2. Jordan Hospital. General view.

similar. In the rear is a discharging room, with a tub in the center. This room may be entered only from the open air, and may be used by any disease, as it is fumigated each time it is used.

5. *Tuberculosis Building.*—The tuberculosis ward is to be located at a distance, but connected by the corridor. On account of the sun treatment, this ward runs east and west, giving the maximum southern exposure. The plans now show two male and female wards of ten beds each, with four private rooms, a common dining room, a linen and utensil room, a diet kitchen, office, pantry, and two locker and toilet rooms. There are covered porches along the south side of the large wards. These porches have flat roofs, the windows of the wards above insuring ample sun in the rooms.

Fig. 3. Jordan Hospital. A connecting corridor.

6. *Laundry Building.*—The laundry and boiler house is to the north of the group, as the prevailing wind is southerly. The first floor of this building is the laundry, which is at the lower level of the corridor, here out of ground. The basement of this building is the heating plant, but it is in no way connected with the laundry. A 60-foot stack gives ample draft for the high- and low-pressure boilers.

The corridors which connect all these buildings, with the exception of the section between the surgical ward and the laundry, are three stories high. The basement is lighted by windows, the first floor is a colonnade, and the second floor level is merely an open porch with balustrade. This top level serves not only as connection between buildings, but also as a porch where patients may be left for sun baths.

Fig. 4. Jordan Hospital. Surgical building.

HEATING AND VENTILATING

With the exception of the operating rooms, the heating of all the rooms is the "direct-indirect." This form of heating is accomplished with the minimum cost both of installation and operation, as well as being the cleanest type for hospitals. The fresh air is admitted through a wall box placed under the window and behind the radiators. This arrangement is well known, but the type of mixing chamber built about the radiator has certain unique features. Its general form is

shown in Fig. 8, and the position of the front when open is shown by dotted lines. This design facilitates cleaning the radiator, wall box, and the mixing chamber itself. All the radiators in the buildings are legless and all the pipes come from the walls. The heating is carried out on a Webster modulating system, with a gravity return. Even in the coldest days this whole plant runs on one or two pounds pressure.

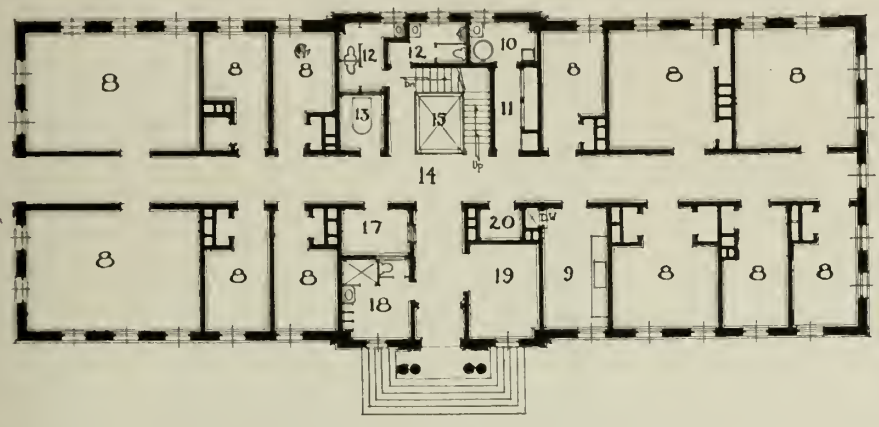

Fig. 5. Jordan Hospital. Surgical building. First floor plan.

8. Wards.
9. Diet kitchen.
10. Utensil kitchen.
11. Linen closet.
12. Toilet.
13. Bath.
14. Corridor.
15. Elevator.
17. Nurses' office.
18. Visiting doctors' room.
19. Waiting room.
20. Store closet.

The operating rooms are heated by an indirect system. The fresh air is taken in at the basement, filtered through cotton gauze, heated, mixed to a desired temperature with fresh filtered air, and raised by gravity to the operating rooms. The mixing damper is controlled from the rooms themselves, and the air is admitted through a register about 7 feet from the floor. This grill is of plain bars, which can be wiped down with a cloth. There is a steam coil between the inner and outer glass of the operating room windows, which also warms the room and keeps the chill from a large glass surface from reaching the patient.

The ventilation of the buildings is by gravity, except for the operating and etherizing rooms. Vents run from all the other rooms at the floor level, and, joining together just under the roof, pass over a radiator, which creates a draft. This draft is so strong that a small pocket handkerchief may be drawn up the vent. The operating rooms and etherizing rooms are ventilated not only by gravity, but by an electric exhaust fan as well. This is arranged as an auxiliary to the gravity system to remove the ether, which is heavier than air. Both operating rooms have a vent at the floor for the bad air and ether, and another at the ceiling for the hot air. A damper controls the amount of exhaust from both by gravity or by the fan.

PLUMBING

There are many unique features about the plumbing of this hospital. The sterilizing slop sink (Fig. 9) consists of a copper cone surrounded by a steam jacket. It is operated entirely without the use of the hands as follows: the nurse, with perhaps a typhoid bed-pan in her hands, opens the cover by a hydraulic foot lift at *a*, places the pan and contents in the machine upside down; by an elbow action valve at *b* she fills the copper cone half full of water; fills the jacket with steam by a knee valve at *c* and lets the whole boil as long as necessary; with her foot she opens the waste to the sewer at *d*, and, holding the cover open with one foot on the pedal, she washes the bed-pan with a hot and cold spray at *e*, controlled by the other foot. There are two of these in the contagious buildings, and one each in the first and second story utensil rooms of the large ward. The other slop sinks are supplied with elbow action, hot and cold water, and a knee action rim flush.

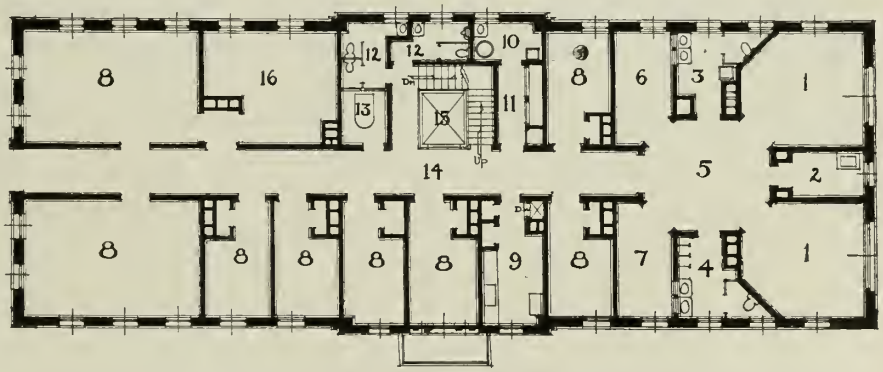

Fig. 6. Jordan Hospital. Surgical building. Second floor plan.

1. Operating room.
2. Sterilizing room.
3. Nurses' "scrub-up."
4. Doctors' "scrub-up."
5. Foyer.
6. Etherizing room.
7. Recovery room.
8. Wards.
9. Diet kitchen.
10. Utensil kitchen.
11. Linen closet.
12. Toilet.
13. Bath.
14. Corridor.
15. Elevator.
16. Nursery.

The nurses' and doctors' scrub-up sinks (Fig. 10) are supplied with hot and cold water by a single spout projecting from the wall, one thigh action lever controlling the water and another delivering liquid soap out of the same spout. All the mechanism, which really is very simple, is built in the wall as well as the soap tank, which is filled from the next room. The nurses' and doctors'

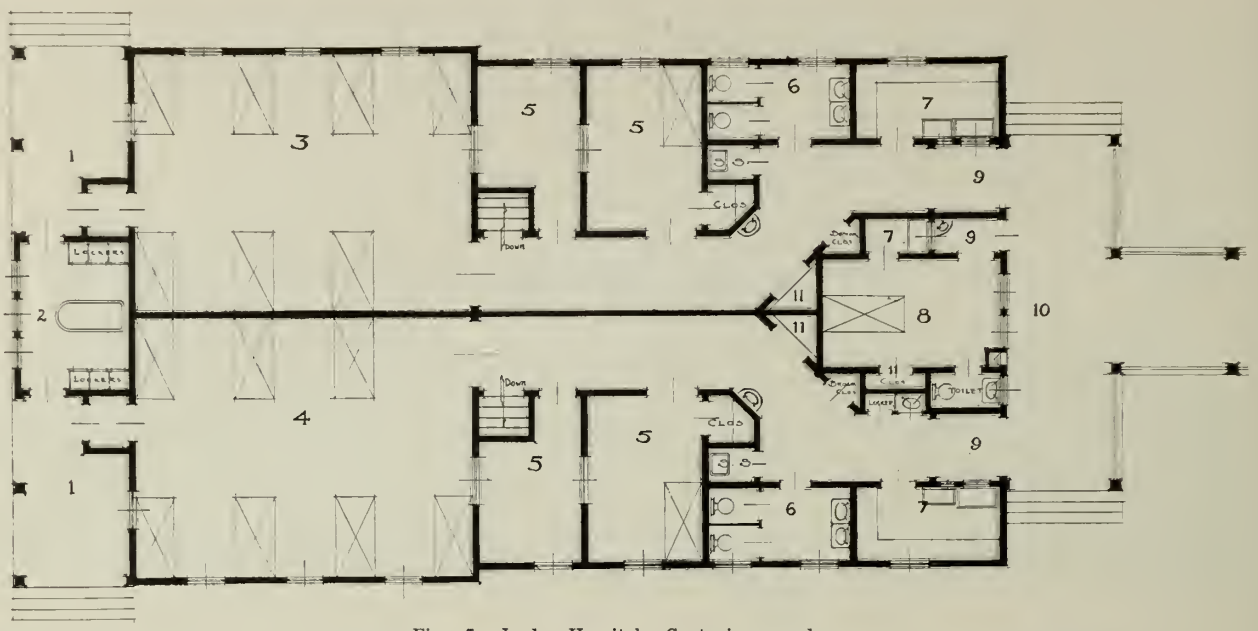

Fig. 7. Jordan Hospital. Contagious ward.

1. Piazza.
2. Discharging room.
3. Scarlet fever ward.
4. Diphtheria ward.
5. Private ward.
6. Toilet.
7. Diet kitchen.
8. Questionable cases.
9. Vestibule.
10. Covered piazza.
11. Linen closet.

wash-up rooms are each fitted with two of these, and there is one in the sterilizing room.

The water closets are operated by the patients leaning back against a button in the middle of the tank. The urinals are automatic and are set to operate at a given number of times per hour. The

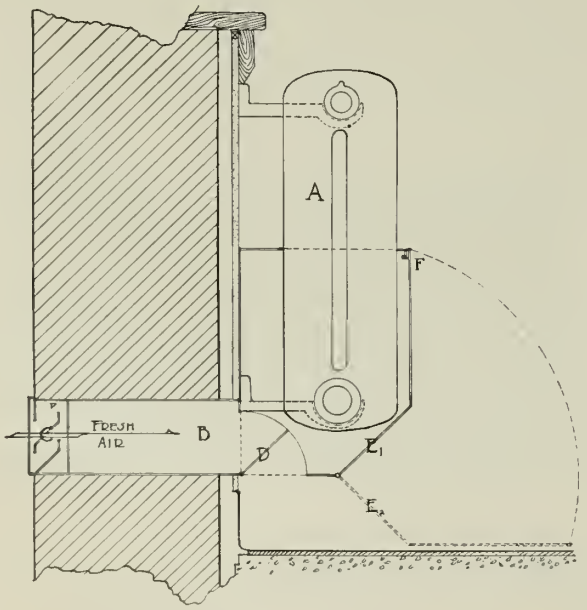

Fig. 8. Jordan Hospital. Direct-indirect radiator.

A. Radiator.
B. Fresh air intake.
C. Exterior wall box.
D. Mixing damper.
E 1. Face of mixing chamber.
E 2. Same opened.
F. Catch.

sinks in the medicine closets are vitreous china slabs hung on brackets. In one end of the slab is a small hemispherical depression for the washing of bottles under a single hot and cold faucet which projects from the wall.

Another unique feature is a shower bath for each of the operating room skylights, which keeps the glass clean and cools it in summer. These showers consist of perforated pipes above the skylights controlled by valves in the sterilizing room, and are made with a draw-off for winter.

The sterilizers are all high-pressure machines, supplied by a special boiler which runs the year around. The cover of each utensil sterilizer operates by the foot, and the basket containing the utensils, dishes, etc., rises automatically from the water by a hydraulic lift. The sterilizing room in the operating suite contains a dressing, utensil, instrument, and glove sterilizer, besides the hot and cold water still.

ELECTRIC LIGHTING

All the wards are lighted by indirect electric fixtures consisting of an inverted green shade, with sheet of clear glass to keep out the dust. Each fixture has three circuits—one for the evening, one of about 4-candle-power for a night light, and one for an extension cord for table light or thermopad.

The corridor fixtures (Fig. 12) are on two circuits—one direct light, and the other indirect, as a night light, which shines only on the ceiling from inside a metal dish.

The operating rooms at night are lighted by indirect light, and there is no fixture in the room. This avoids the dirt and heat of the ordinary fixtures and gives a light without any shadow. The arrangement of lights and mirrors is shown in Fig. 13. Although there is one mirror-lighted

operating room in Germany, there are no others in this country. The principle of this means of lighting is to make the ceiling and all the wall equally bright, thus neutralizing any shadow. To accomplish this, two 1,500-candle-power nitrogen lights are so placed that their light is reflected by seven mirrors from a small room between the two operating rooms through windows about 12

Fig. 9. Jordan Hospital. Sterilizing slop sink.

feet from the floor. The two mirrors which reflect upon the ceiling are nickeled steel, as glass would break so near the heat of the lamps. The semi-domical ceiling was designed to center the light rays not only from the north window by day, but also the electric light at night. Above a 6-foot dark-green dado the walls and ceilings of the operating rooms are white enamel. In Fig. 14 the letter A represents the lights, B the two steel mirrors, and C the five glass mirrors. It will be seen how every corner, as well as the ceiling of the room, is covered by a mirror. This lighting device is controlled from the room itself, and burns about as much electricity as ten common lights.

SILENT CALL SYSTEM

The nurses' silent call system is here installed, and each bed is fitted with a cord. When the patient presses the button, it starts a light over the bed, over the ward door, and in the first and second floor annunciator. The private rooms do not have lights over the beds, as there is but one patient to call. The only way to release all these lights is for the nurse to press a button at the head of the bed.

TELEPHONES

All the floors of each building have intercommunicating telephones, and there is a telephone in each of the three units of the contagious building. These are necessary to call for supplies without the contagious nurse leaving the ward.

INCINERATOR

There are two gas wall type incinerators—one in the surgical octagon and one in the basement.

SERVICE

The service of a hospital may be grouped into three headings—nursing, kitchen, and laundry service. Of the first there is little to say, except that one nurse may be on duty in the contagious ward for all the diseases if she takes proper precautions in going from one ward to another. Each time she goes out of a disease she washes her hands and face, and changes her outer gown. The only way to get from one ward to another is out of doors or through the basement, where the scrub-up rooms are. A unique point at this hospital in the kitchen service is an exterior dumb-

Fig. 10. Jordan Hospital. Doctors' and nurses' scrub sinks.

waiter in the contagious building. From this the food is taken to one of the three contagious ward vestibules and passed through a window into the diet kitchen. Under each of these windows is a sterilizer in the kitchen, but a person standing in the clean vestibule may get anything out of the sterilizer without coming into the infected part of the ward. From this uninfected vestibule the ice is also put into the boxes through the window. All the food of this institution is prepared in the central kitchen, and carried through the covered basement passages to the hydraulic dumbwaiters or in food trucks to the diet kitchens by elevator.

The laundry service is interesting in the handling of infected linen. Soiled clothes are put in a chute in the various contagious wards and falls

into canvas bags in the basement. These bags are tied up and carried to the laundry by an employee wearing cotton gloves. Here the linen, bag, and white gloves are placed in a two-door washer, which is built in a partition. After washing, the linen is removed on the uninfected side of the partition. All the soiled linen of the hospital is collected in bags, but only the infected wash is sorted within the contagious inclosure of the laundry. There is a central linen room in the administration building, from which the linen is distributed to the various ward closets. Each of the three units of the contagious building has its own linen closet.

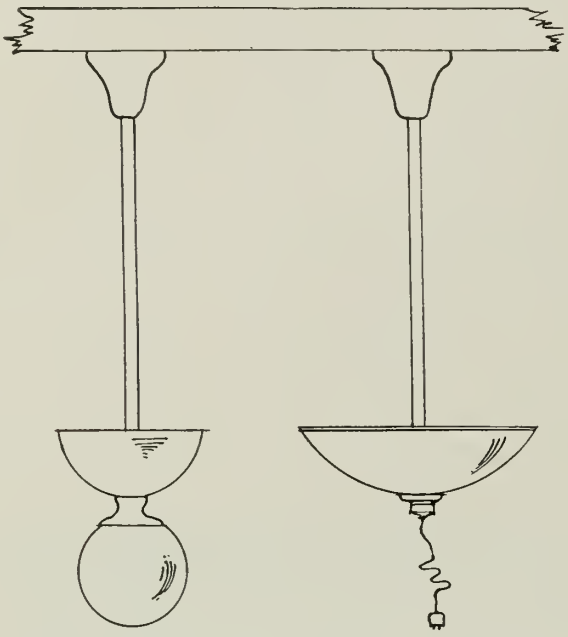

Fig. 11. Corridor fixture.

Fig. 12. Ward fixture.

The wing of the hospital that holds greatest interest for the surgeon is naturally the operating suite, and the surgeon feels that here certain requirements must be met to insure the greatest efficiency. Space should be economized without crowding, lighting and ventilation should be designed to meet varying conditions, and adequate precautions should be taken to prevent infection from dust-laden drafts and unnecessary exposure of the sterilized instruments and dry goods.

To provide accessibility, the operating wing of the Jordan Hospital was designed around a central octagonal foyer. The two operating rooms, with the sterilizing room between, occupy the northerly exposure. Next to the operating rooms, on either side of the foyer, come the scrub-up rooms for the doctors and for nurses. The etherizing and recovery rooms are placed next, with the entrance from the main portion of the hospital between them and opposite the sterilizing room. The entrance is conveniently close to the elevator and double swing doors prevent drafts and sounds penetrating to this wing.

In the hospital for a small community and for small private hospitals the single operating room is sufficient, but where it may be expected that on frequent occasions a number of operations will have to be done in one morning, it is essential, for the convenience of the surgeons and nursing staff, that two operating rooms should be arranged for. In this way much time may be saved, and hurry in the preparation of the operating room, with consequent danger of subsequent infection to the patient, may be obviated.

At the Jordan Hospital the two operating rooms are of equal size and are similarly arranged. Purposely they are of relatively small dimensions, 15 feet 9 inches by 16 feet 2 inches, as the small room can be kept more clean than the large room and the temperature can be better regulated. These dimensions give plenty of space for the necessary operating room furniture, with ample passageway around the table for assistants and nurses. Excellent lighting of the field of operation is attained by a large window occupying the whole northerly side of the room and continued half way across the ceiling. The remaining portion of the ceiling is dome-shaped, and so constructed as to reflect the light entering from this window downward onto the operating table. To prevent

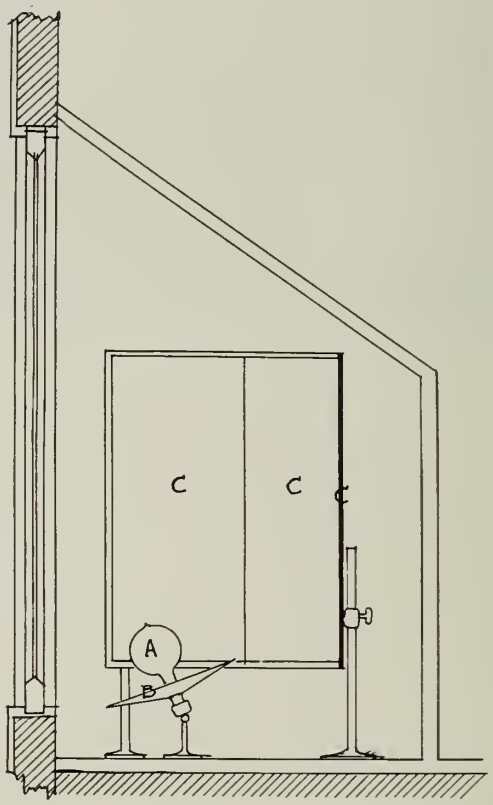

Fig. 13. Jordan Hospital. Section of operating room lights.

dazzling and inability to focus by contraction of the pupil of the operator's eye, the walls are painted dark-green from the floor upward to a distance of 6 feet. This will be supplemented by the use of dark-gray or black operating sheets. The depths of even very deep wounds are brought out with amazing distinctness, and the eyes of the operator are much less fatigued after a long morning's work.

The different units of this wing are all placed on the same floor, which is preferable to having the sterilizing plant on the floor above or below. There is less likelihood of a break in asepsis by a short trip by one nurse from the sterilizing room to the operating room than where the instruments are placed by one nurse in an elevator, that may be insufficiently protected or improperly cleaned, and then carried by another nurse to the operating room. The fewer pairs of hands and the less the handling of sterile articles, the more perfect will

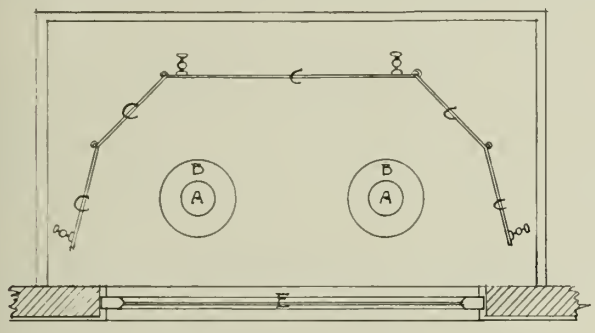

Fig. 14. Jordan Hospital. Plan of operating room lights.

be the asepsis. The situation of the sterilizing room between the two operating rooms reduces the distance to be covered and the handling to a minimum.

The etherizing and recovery rooms, though not absolutely essential, add greatly to the comfort of the patients. In a charitable hospital with open wards a recovery room should be provided where possible, as the vomiting and distress incident to the recovery from ether is very distressing to the other inmates of the ward. The etherizing room eliminates the mental shock occasioned by the sight of the prepared operating room to the nervous, high-strung patient. These rooms are larger than would be necessary where space had to be economized, but the greater room adds to the convenience of the anesthetist and especially to the nurses in the recovery room. Patients may be prepared in the etherizing room after anesthesia is induced, and carried on the truck to the operating room, a very short distance across the central hall, with a sterile sheet covering the field of operation, or they may be prepared on the operating table.

Training Nurses in China

The nursing profession is comparatively new in China, writes Eva A. Gregg in the *American Journal of Nursing*. Girls of the better-educated class are just beginning to want to take the training. Seven entered the Tientsin Training School for Nurses when it was opened in April, 1915, and all have persevered in spite of the facts that they had had at the outset very little idea of the nature of the work and were surprised that it included duties on which they had been accustomed to look down. American training-school methods are followed as closely as possible, and the nurses wear regular uniforms. Since white is the color for Chinese mourning, however, a white cap would have the same associations to a Chinese as a crepe bonnet to a Westerner. The nurses therefore wear pale blue caps trimmed with white.

"One day early last spring," says Miss Gregg, the pastor's wife came to me and inquired about one of the nurses. She was a very good nurse and I did not hesitate to recommend her in very glowing terms. A few weeks later I learned that this girl was engaged to the president of the Young Men's Christian Association and when I asked Mrs. Liu about it she said: 'O, yes, we were looking for a wife for Mr. W. and thought Miss C. would make a good mother for his motherless children; and your recommendations just settled the matter. Don't you remember you said she had a very good disposition and was such a fine worker?' Alas! I remembered it all too well. We gave Miss C. a wedding feast at the hospital, after which she left for Wesley Church, where the marriage was to take place, in an automobile accompanied by two of her sister nurses who acted as bridesmaids. She was followed by the good wishes of her many friends expressed in a thoroughly Chinese fashion by the booming of firecrackers. The next time anyone comes along inquiring about my nurses I know I shall feel tempted to say that they are homely as mud fences and have bad tempers. It is my aim to run a nurses' training school and not a matrimonial bureau."

Not merely in some far-off divine event, which shall gloriously consummate and fulfill the hopes of today, but all along the road, in the details of meeting, serving, directing our patients, in the very process itself, and not only in its results, we must find our happiness. Why must we? Because the man that doesn't enjoy his job never does it well, and because, if you do enjoy it, you will make others happy. If it is only the fully achieved result that you enjoy, you will be glum or grim most of the time, for results are rare and uncertain things, and the "best laid plans of mice and men gang aft agley." One ought to enjoy the motion of walking down a corridor, the actual questions and answers by which we get at our patient's needs, the simple technic of accurately reading a thermometer and neatly recording the result on a chart. One ought to get pleasure out of the eyes and faces, the gestures and tones, of our patients and our fellow-workers, the rich roll of the Scotchman's brogue, the musical undulations of the Englishman's voice, and the quick, sympathetic flash of the Italian's eye. How stupid, how purblind, to front all these guests with the same stereotyped kindness, the same military precision, or, worst of all, the same dull inattention! Let us be in it! Let us catch the vital impulse of happiness that there is in sight, sound, and touch, in the infinite novelty and unexpectedness of the foreground.—Richard C. Cabot, "Social Service and the Art of Healing."

COOPERATION BETWEEN EMPLOYER AND EMPLOYEE IN WELFARE WORK

The New York Edison Company Has Adopted Measures to Insure the Safety and Promote the Happiness of Its Employees—Special Rules Followed to Avoid Accidents From Electrical Currents—Technical Instruction, Savings, and Recreation Receive Attention

THE New York Edison Company has long taken exceptional measures to insure the safety and promote the happiness of its employees. This welfare work expresses itself largely in the hearty cooperation existing between the company and the association of employees, the latter being a factor by which a great part of the affairs relating to the employees is conducted. This association maintains a commodious club house, with facilities for social intercourse and indoor games, and has a library. Outdoor sports are provided for by an athletic field within the city. The association also conducts a school in technical and accounting courses, which has resulted in many promotions for those who attended. Of material benefit are the insurance features, whereby members are enabled to secure protection at most advantageous rates. Mention should not be omitted of the savings and loan association, by which employees are enabled to save systematically.

Always liberal in the matter of protecting the interests of sick or disabled employees, the company compensation methods antedate the recently enacted legislation, which in New York state makes this form of insurance compulsory. Injured employees are and have been carried on full time for the entire period of disability, notwithstanding the law makes provision for only partial payment, and then not until a certain number of days have elapsed.

The provision for the safety of employees is the result of years of experiment and effort. At the generating stations the protective sheathing of dangerous parts is so complete that it is impossible for an accident to take place. Each of the high-tension switches which control the generators is installed in a separate compartment, is carefully numbered, and the operator working in the compartment is confronted by the number which records the voltage. On approaching the compartment he must be accompanied by the man with the key, while a considerable amount of formality has next to be observed before he is allowed to commence his work. For example, if alterations or additions are to be made in the connection or location of any of the high-tension apparatus, a sketch of the proposed changes must be furnished the system operator twenty-four hours, if possible, before the work is scheduled to begin. Next, the foreman of the electrical construction department or the employee whom he delegates to do the work must make sure from the regulator in charge of the switchboard in the station where the work is to be done that the particular cable, bus, or switch is not connected with any source of high potential, and, further, that it has been discharged to ground since it last carried high-tension current. The regulator must then notify the system operator that the construction department is prepared to proceed with the work marked out in the sketch. The station operator, on receiving word from the system operator, then sends two assistants to block the switches and connect all conductors to ground and to each other by means of the grounding and short-circuiting device provided for the purpose. They place "hold off" signs on the switches and report to the station operator, who blocks and tags the control circuits on the switch board. A work order is then issued to the foreman, permitting him to proceed with the job. The work completed, a note to this effect is made in the high-tension log book and the apparatus is inspected. If it is then pronounced ready for use, the regulator notifies the system operator, and, on receiving instructions from him, orders the grounding and short-circuiting device, the switch blocks, and "not clear" cards removed, and notes the operation in the log book. The same care is taken in all work on the high-tension apparatus. So protected is this apparatus that the men cannot come in contact with any of the live parts, except by removing the insulating barriers and doors. All cables are insulated, and the greatest care taken to insure their being dead when they are worked on.

The popular notion about the danger connected with electrical current is based on the supposed fact that any contact with a highly charged conductor must necessarily result in serious injury. The fact of the matter is that the current becomes dangerous from the characteristic of high voltage. Even then, if there is adequate protection against the passage of the current through the body, it is harmless. Should, for example, the workman's shoes be dry and insulation attained by dry rubber or wooden flooring or rubber mat, a connection with a return conductor is prevented and the man is safe.

All rotary converters in the Edison Company's

stations are provided with hand rails and rubber mats, so that a man may be protected from danger to the fullest extent. There is also provided a regular system of inspection by authorized men, on whom devolves the duty of immediately reporting any fault which may develop in any part of the transmission or transforming system. Such inspection determines where accident might possibly occur, and the possibility of danger is straightway removed. Each operator is given a book entitled, "Rules for the Government of Employees Operating and Handling High-Tension Apparatus." Every book is numbered, and the operator who signs for it is expected to familiarize himself with its contents.

Another measure of precaution is provided in the handling of all dangerous apparatus with lineman's rubber gloves which have previously been

Fig. 1. New York Edison Company. Rubber gloves, sleeves, line protectors, mats, and safety belts used by linemen.

subjected in tests to a pressure far exceeding the voltage of the work to be done. Such are the methods to insure the safety of employees during work of this kind. In both generating and substations all dangerous apparatus is marked and the voltage conspicuously indicated. The liability of accident under these circumstances is obviously reduced to a minimum, as the company's statistics bear witness.

But when all is said and done, undoubtedly the ultimate safeguard against accidents is education. This means not only the acquirement of technical skill, but education of a sort to develop mental alertness, accuracy of judgment, and a genuine and lively interest both in the employee's welfare and in that of the company. Adequate rules may be multiplied, the latest and most advanced safety appliances may be installed, but the deficiencies of human nature remain to be reckoned with. It is not always the employees who stand the highest in rules examinations who have the clearest accident records. Emphatically it is the mentality of the men which must be trained to meet, not only emergencies, but the inevitable risks inherent in the daily routine. It is thus that educational effort is called for imperatively, for by this means alone will the workman be brought to a clearer appreciation of life and its responsibilities, and made more alert to the opportunities and dangers of his profession. By this agency he is also brought to realize the significance of the efforts being made to help him.

Fully awake to the importance and urgency of such welfare methods, the New York Edison Company endeavors in every way to promote these ends. Not only are classes provided which afford a comprehensive technical knowledge of the industry, but other courses give the men an opportunity to familiarize themselves with the commercial aspect of the company's affairs. Laboratory courses, conducted under the auspices of the employees' association, provide instruction, without cost to the employee, in electrical science from the most elementary principle to the most advanced application. Night courses have been arranged for day workers and day courses for night workers. In this way any man who enters the employ of the company without technical training, and with an ambition to become proficient along such lines, may acquire such training by his own effort. Numbers of the company's present employees who began as helpers, even boys serving in offices, have, by taking advantage of these opportunities, advanced themselves to responsible positions.

A later development, the commercial school, is designed to meet special needs among employees, both men and women. A new employee serving in some one of the company's many departments is in this way enabled to see its relation to other departments, and to fit himself for advancement which involves such knowledge. In this school the student is made thoroughly conversant with the company's affairs. He is given also adequate courses in salesmanship and lectures on recreation and hygiene. A course of remarkable effectiveness along these lines has been given the women of the company within the past year. The

lectures on such subjects as "Industrial Ideals," "Developing of Personality," "The Meaning of Leisure," "Physical Efficiency," and "Getting the Most Out of a Vacation," have been given by such eminent authorities as Dr. James J. Walsh and Dr. Luther Halsey Gulick. The school is unique in the fact that its work is done entirely on the company's time. On this basis the work is considered as part of the company's work, and in consequence no employee who comes in contact with the public is without instructions along these lines. His work in the school is graded, and the results are referred to in the matter of promotion. By such means does the company seek

Fig. 2. New York Edison Company. Type of medical cabinet provided in all the stations.

to discharge its responsibility, not only as employer to employee, but as public servant to a community which has been warranted in expecting adequate and consistent service.

Further in line with the company's broad welfare policy was the encouragement accorded its employees in the establishment four years ago of a savings and loan association, the object being to provide a means of home owning and a form of investment or saving through installments, offering a fair return. This association differs from other institutions of the kind principally in that the company assumes the expenses of operation, and provides all necessary clerical assistance in addition to the officers and directors, who are all employees. That this clerical assistance is no small item may be more readily appreciated when it is explained that fully 80 percent of 2,600 members pay their dues in weekly installments, which are deducted from the salary envelope. This involves a tremendous amount of work, which, if creating an item of overhead expense, would reduce considerably the liberal dividends now possible. Through this contribution on the part of the company, practically all the earnings are net, and, without deduction of any kind, except for the required contingent reserve, are distributed as profits throughout the entire membership. Already some one hundred loans, ranging in amounts from $200 to $7,400 and aggregating $315,000, have been made; in some instances for the erection of homes, in others for their purchase, in some for the transfer of existing term mortgages to the customary installment arrangement, and in still others for property improvements.

At present there are 2,600 members, whose payments in all classes of shares now aggregate $21,000 monthly. Practically all of the money received, $350,000, has found an outlet in desirable first mortgages. Compared with other and much longer established institutions, this association may not now, perhaps, be considered large in the usual sense, yet it is felt that in its short life it has been prosperous to a gratifying degree. All indications point to its steady growth, and for the future much is expected.

An association of employees involving far-reaching benefits was organized in the fall of 1905. Not only did the original plan, which contemplated social and educational features, receive the hearty approval of the company, but cooperation was given by the executives in the establishment of a mortuary fund. Membership in the association at first carried with it a death benefit of $100, to which an equal amount was contributed by the company. This benefit was later increased to $150, bringing the total to $250. During the past year arrangements were perfected with the Travelers' Insurance Company to insure, without medical examination, all members in the sum of $250. To this the company adds $100, making a total benefit of $350. The yearly premium is low—$2.60, covering also association dues—and members are privileged to take additional insurance to the amount of a year's salary, not, however, exceeding $3,000. Though the insurance feature was an afterthought, it soon took a prominent place, and perhaps has been the largest factor in the successful upbuilding of the association. Some idea of the progress made is shown

by a comparison of the membership. Thus, in 1905 there were twenty-three members from an available roll exceeding 3,700, while at present the membership numbers 5,300 out of approximately 6,000 employees. The association provides, in addition, for a sick benefit fund for hourly employees.

The association possesses an adequate and well-equipped club house on East Twelfth street, near Fourth avenue. The building affords bowling alleys, pool and billiard rooms, extensive reading rooms in conjunction with a well-stocked library, and ample facilities for dances and receptions.

THE NURSE—LABORER OR PROFESSIONAL?

Bill Classing Nurses With Factory Employees Now Before Illinois Legislature—Chicago Hospital Association Formed to Fight Hospital Clause

For some reason, the framers of the bill on hours of women's labor, now pending before the Illinois Legislature, have seen fit to include under its provisions hospital nurses in training, except those assigned to operating-room service. The bill provides (italics ours):

"Sec. 1. That no female shall be employed in any mechanical or mercantile establishment, or factory, or laundry, or hotel, or restaurant, or *hospital*, or telegraph or telephone establishment or office thereof, or in any place of amusement, or by any person, firm or corporation engaged in any express or transportation or public utility business, or by any common carrier, or in any public institution, incorporated or unincorporated, in this State, more than eight hours during any one day. The hours of work may be so arranged as to permit the employment of females at any time so that they shall not work more than eight hours during the twenty-four hours of any day or more than forty-eight hours in any week; *provided, that the provisions of this section shall not apply to graduate nurses or nurses assigned to services in operating rooms in hospitals.*"

This legislation, of course, would materially affect the working of hospitals unless they are exempted from its operation. Chicago hospital executives, therefore, have organized to work for the exclusion of hospitals from the provisions of the law. A special meeting, held February 19, was attended by representatives of sixty hospitals. Resolutions were adopted stating the opposition of the association to the bill in its present form. A committee of five was appointed to take such action as might be necessary to secure a hearing before the proper committee of the Legislature to secure an amendment exempting hospitals from the provisions of the bill. All members were urged to register with their respective representatives protests against the application of the bill to hospitals. A circular sent out by the association reads in part as follows:

"1. Nursing is a profession. It stands in the same relation to the sick of the world as the medical profession. The work of nurses can no more be regulated by a hard-and-fast law than the work of the doctors or mothers. The sick and the children are here and they must be cared for. The nurses all over the world will protest at being classed as wage-earners.

"2. Nurses in training are not employees in the sense that they are wage-earners. They are a part of the hospital family, and are cared for as a father cares for his children. The money given them is only given as pin-money to take care of books, carfare, etc., not as wages. Their whole so-called working time is devoted to the study of the theory and practice of nursing.

"3. There exists an erroneous idea that nurses in training are abused and overworked, a broken-down, sickly lot, while in reality nurses are the healthiest young women in the world, because they live regular hours, eat regularly, sleep regularly and enough, and are taught and made to practice the rules of hygiene that spell health. The health and well-being of the nurses are of such paramount importance to a hospital that there is no necessity for outside legislation to regulate this. The hospital, to exist, must see that its nurses are mentally, morally and physically right.

"4. If the time of the nurses in training is to be reduced, it will be necessary to increase the length of the course in the training schools. There is no more time than is necessary now, to teach them what they must know.

"Furthermore, it will require at least a third more nurses in training than we now have, and this will so greatly increase the expense of conducting the hospitals that it will be necessary to raise the rates in all hospitals and reduce the amount of charity done. Hospitals are not money-making institutions. They exist for the benefit of the sick of all classes, and it is all that a hospital can do now to get money enough to keep its doors open.

"The hospital cannot be put in the same category as offices, factories, stores, etc. Hospitals must be kept open night and day, seven days in the week.

"It is apparent that no proper investigation of hospital conditions has been made by any person or persons competent to judge the needs of nurses or employees of this bill.

"We object to supervision of hospitals at the hands of factory inspectors. Investigation and regulation of hospitals in the state is heartily approved, but should be directed by the State Board of Health."

The officers of the association are: president, Asa Bacon, superintendent Presbyterian Hospital; vice-president, John L. Meigs, superintendent St. Luke's Hospital; secretary, Dr. E. T. Olsen, superintendent Englewood Hospital; treasurer, Dr. C. O. Young, superintendent Washington Park Hospital.

American Medical Association Committees of Interest to Hospital People

In our last issue we gave the membership of various committees of the American Medical Association which are concerned with subjects of interest to hospitals. In addition we are now able to give the membership of the Committee on Hospital Social Service as follows: Mr. James K. Paulding, 133 W. 11th St.; Miss H. H. Combs, Hospital Social Service Conference, 405 Lexington Ave., New York; Dr. E. C. Stillman, 17 E. 72d St.; Miss M. E. Wadley, Bellevue Hospital; Miss Ruth Morgan, 26 Washington Square; Dr. Alexander Lambert, 43 E. 72d St.; Dr. S. S. Goldwater, Mount Sinai Hospital; Dr. Richard Derby, 116 E. 79th St.; Dr. Lewis A. Conner, 121 E. 62d St.; Dr. Virgil P. Gibney, 16 Park Ave.; Dr. William Lohman, 472 Washington Ave., Brooklyn; Mrs. C. F. Neergard, 24 Monroe Place, Brooklyn; Miss Jessy Palmer, 426 E. 26th St.

Too much sameness in the things one has to think about will callous the intellect. A horny hand is honorable, but the brain is no place for corns. In a word, hunt the job for which you are specially fitted, go to it and stay with it.—*Bull. Chicago School of Sanitary Instruction.*

Hospital nurses find many strange charms and mascots on the persons of wounded soldiers. One Irish soldier who had come through a fierce battle with a severe scalp wound, had a piece of Irish bog-oak, a prayer written by a French girl, a withered shamrock, and a piece of wood from a saint's cell.

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A Plea for Sickness Surveys

It is a mistake to assume that the hospital plays the leading role in the care of the sick. To the hospital administrator, the institutional treatment of illness bulks large in the world's affairs. The task of medical administration, however, is not merely the orderly, economical, and efficient management of the hospital, but also the adequate care of the community's sick, and in the solution of this broader problem the hospital ranks as a factor of only secondary importance.

In Boston, an insurance company recently canvassed several parts of the city, including the outlying sections of Dorchester, Roxbury, and South Boston. More than 300 men were engaged in the survey. Together these men canvassed 20,497 families, and presented returns of illness for a total of 97,259 persons (equivalent to about 13 percent of the total estimated population of the greater city of Boston). Among this population, 1,902 cases of sickness were discovered, the rate being 19.6 percent sick in 1,000 persons canvassed. Of the 1,902 sick, 1,747, or 91.9 percent were disabled, and of this number 337, or 17.8 percent, were receiving treatment in hospitals.

Under the same auspices, surveys have been made in other parts of the country. In Rochester, N. Y., 10.7 percent of the total sick were found to be receiving hospital care, while in North Carolina, where the number of hospital beds per unit of population is far below the average found in Northern states, only 2.4 percent of the total sick were hospital patients.

An illness census that throws further light on existing conditions was recently made by the Department of Health of the city of New York. This New York survey covered a tenement house district having a population in February, 1916, of 29,995. In a survey made in February, 1916, the sickness rate was 24.5 per thousand for the entire population. In an earlier survey, made in the same district in August, 1915, a sickness rate of only 7.7 per thousand was recorded. Seasonal variations of this character probably occur every year.

An analysis of the February figures of the Department of Health yields interesting returns. Of the 757 persons reported ill, 75 percent were incapacitated. The cases treated in hospitals were only 10 percent of the total number. Dispensaries (which are numerous and accessible in New York) and private physicians figured about equally in the work of medical relief; dispensaries cared for 35 percent of the total sick, private physicians for 34 percent. Dispensaries, private physicians, and hospitals, combined, cared for only 79 percent of all persons ill in the district, while 21 percent were without medical care of any kind. In Rochester, conditions were even worse, for the Rochester survey disclosed the astonishing fact that 40 percent of the total sick were either self-treated or not treated.

These surveys show how heavy is the responsibility which rests upon the shoulders of the private practitioner. The burden of the private physician diminishes gradually as hospital and dispensary facilities increase, but it remains great even in those communities in which medical relief is most highly organized. In North Carolina and other Southern states, hospital development is in its infancy. In New York, where hospital beds are relatively numerous, only 10 percent of the total sick come under hospital care, and even in Boston, the hospitals apparently care for only one-sixth of those in need of medical service. The service of the private practitioner, however, is not limited to the actual treatment of patients under his care, but includes also the choice of hospital treatment. In the experience of a representative hospital in New York City, more than 50 percent of the applicants for admission come to the hospital only when advised to do so by private physicians.

What are the presumptive causes of medical

neglect in the many cases of illness in which physicians and hospitals do not figure at all? Such neglect may be due to ignorance, to fanaticism, to distrust, to a stoicism which is far from rare among workingmen, to lethargy, to poverty, or to several of these causes combined. Those who undertake the organization of medical relief in any community must first of all ascertain the extent of the need and of the existing provision for such need; the next step is to determine the causes of neglect; the third step is to obviate such causes. The time has arrived when every community in the country should undertake a local sickness survey, with the humane purpose of bridging the gap between medical art and those who are in need of its ministrations. We can imagine no way in which the expenditure of a given amount of money and energy can be made to yield a greater social return.

S. S. GOLDWATER.

Standardizing Hospitals

We have been thinking for years in terms of standardization of our hospitals. We have looked longingly at the stars in thinking of hospital service, but too many times we have plodded along in the valleys. High ideals have been our goal, but the deadly grind of the day's work has held us short of realization. Something has been achieved by all of us to meet the demands of modern medicine in the care of the sick entrusted to us—something, but not enough. We have all realized the need of better hospitals, better equipment, and above all else, better service, but how to do it—that has been the question.

Many agencies have been at work studying to find ways to bring about some working standards—standards that will make it possible for one hospital to form comparisons with what other hospitals are doing. The Hospital Section of the American Medical Association had a standing committee for several years; the American Hospital Association has had such a committee. At the last meeting of that association another committee was appointed to collaborate with the American College of Surgeons on the subject, and Dr. J. G. Bowman, director of the college, read a paper before the association at Philadelphia, stating that he had secured a fund to begin a comprehensive study of the problems of standardization and asking for the cooperation of the association. The appointment of the committee followed. The Catholic Hospital Association has indicated its intention to concentrate the whole three days of its coming annual meeting on the same problems, in symposium form. Much may be expected of this meeting.

During these past few years, I personally have been a rather close student of this subject, part of the time as chairman of the standardization committee of the American Hospital Association, and as a member of the committee of the Hospital Section of the American Medical Association. For years I have studied how best to gain knowledge for the benefit of my own hospital by comparing what I was doing with what others were doing. I do not consider myself by any means competent to create standards, and at best the result of anything that I might do could be considered only a skeleton to build up on.

I am asking for the collaboration of a number of specialists in hospital work in whom I have confidence and whose names will be announced later; together we are to publish in THE MODERN HOSPITAL, beginning in this issue, a series of papers discussing the items in standardization, taking as a basis the classification of hospitals given in the introductory paper in this issue. The reasons for this particular classification have been studied pretty carefully, and I could wish that the hospital people would read it and criticize it fearlessly, because the series of papers and the criticisms now offered must be of value when an authorized body comes to consider the subject in all its wide examinations.

If we can have criticisms in writing to be published in the number following each paper it will be an advantage. Studying the various problems together in this way, we may, it is hoped, build something of real constructive value, based, not on one opinion only, but on a study by all the thoughtful hospital people together.

JOHN ALLAN HORNSBY.

Eight Hours for Nurses

An eight-hour female labor bill (Senate Bill No. 10) is now before the Illinois Legislature. A note about it is published elsewhere in this issue in connection with the formation of the Chicago Hospital Association.

The proposed legislation is very important in that it contemplates protection of the health of women workers. It seems to direct its chief aim at factory workers; at least those will be its chief beneficiaries if the bill finally becomes law.

Hospital workers would be the last to join in working for the defeat of so meritorious a piece of legislation. Unfortunately, the bill is made to include women workers in hospitals, including nurses. No one will gainsay that nurses and women hospital employees ought to be protected,

and no one could reasonably object to that protection being guaranteed in formal legislation. But it would seem more desirable that special legislation should deal with these very special and exceptional classes of women workers.

For the purposes of this discussion, hospital women may properly be divided into three classes: (1) graduated nurses; (2) pupil nurses; (3) domestics and other paid employees.

The proposed legislation does not include graduated nurses, probably for the reason that experience with similar legislation in California has demonstrated that people in moderate circumstances who cannot possibly afford three eight-hour nurses are the chief sufferers by the inclusion of graduates in that law.

Pupil nurses ought not to be classed with factory employees for several reasons:

1. Their status is that of pupils striving for an education, that they may become members and licentiates of an honored profession.

2. The work of pupil nurses varies between actual care of the sick, under trained direction, and their study and recitation hours—in school, as it were. The sick are not able to accommodate themselves to an eight-hour relief schedule, and many times it will happen that some very vital treatment is being given when the nurse's eight hours are up. Must she resign her unfinished task to another, who perhaps has not been made entirely familiar with the "doctor's orders," or shall she be allowed to complete her task? If she is to be allowed to finish, why not then make a special law for nurses covering this as well as other points?

3. Hospitals are the health centers of a community and it is a well-known fact that maids and other hospital domestics are better cared for than almost any other class of women workers; they too have their duties to the sick that cannot be broken into by fast-drawn hour limits without subjecting patients to distress, as at meal times, for instance.

But there is another point in this proposed legislation that our lawmakers should consider most carefully, namely, its effect on the present tendency toward almost universal hospitalization of the people. Scientific medicine has progressed so rapidly of late that actual diagnosis and competent treatment are fairly dependent on the laboratories, the x-ray equipment, the special dietary, the asepsis now demanded, and these are to be had only in a hospital, with its composite equipment and its trained personnel. Recognition of these facts is responsible for a phenomenal awakening in every part of the country, until now it seems that every county—indeed, every hamlet—longs for its due share of recognized modern care of its sick, and the stories of personal and community sacrifice to create small hospitals are among the inspiring periods of our contemporary social history.

In California the operations of the female labor law, passed two years ago, have driven out of existence many small community hospitals in that state. Do our lawmakers wish to check the progress toward that nearing day when every sick and hurt man, woman, and child shall have access to a bed in a competent hospital, where poor and rich alike may share the blessings of scientific medicine? Pupil nurses are hard to obtain for these small community hospitals at best; are the terms of their pupilage to be so limited that small hospitals deprived of the services of such pupils in return for their training must close their doors, and so the whole trend toward a universal hospital era be turned back? Do we wish to return to the time when only the rich man could afford adequate care for his sick, and the poor were deprived of hospital care altogether because there was "no vacant bed"?

Imagination in the Hospital

Of all possible careers, hospital work is one of the most absorbing. It is one in which the tendency for the conscientious executive to become absorbed in details and to lose sight of all other aspects of life is almost overwhelming—unless conscience is balanced by imagination. The few hospital executives who do possess imagination in addition to other qualifications for leadership are the pick of the profession, for, after all, the man who knows only one thing never knows that thing really well. For real success, a man or woman must have, in addition to knowledge, conscientiousness, perseverance and all the rest, the ability to surmount detail and to "see life steadily and to see it whole."

We should not love our work less, but most of us should play more; we should take more delight in our privileges as human beings, not mere hospital functionaries. "The world is so full of a number of things" that the human being who allows one thing to absorb his mind and soul cheats himself of his birthright. Those who enrich their natures by the study and enjoyment of the beautiful world we live in, and the treasures of art and literature in it, will find themselves just so much the stronger for their professional duties.

All this is merely by way of preface. The following poem by Dr. Frederic Brush, superintendent of Burke Foundation, White Plains, N. Y.,

was published in the New York *Times*. Dr. Brush proves all that we have just said.

MANILA BAY

Quick lights flared on the looming isle,
And red flames blurted into the night;
But the silent man on the cruiser's bridge
Turned not to left or right.
Eyes that gaze on the unborn years
May not be troubled by lights or tears.

The warm sea hissed to the touch of shell,
And reared on the back of the buried death;
Yet the seaman gray with his tools of war
Slid sullenly past Corregidor,
And was gone like a spirit's breath.
Men that move to the tryst with fate
May never be noisy, and never late.

The harbor glowed to the orient morn;
The men stripped buff, and said no word.
Then down on spluttering fleet and shore
Still as phantoms the gray ships bore.
Waiting the call of the Commodore—
That all the nations heard.
"You may fire when ready," was all he said;
But the enemy's decks grew strangely red.

Out from the narrow channeled throats,
Tense with the wrath of the years of wrong,
The little black demons leapt away,
Shrieked and whimpered over the bay,
Crooning a direful song.
Men that hurry to war in ships
May kiss cold faces, with colder lips.

White waved over a battered wall;
The harbor stilled, the banners furled.
Anglo-Saxon, East and West,
Met round a wondering world.
When a nation clogs in the wheels of Time,
Comes cursing and crushing—and work sublime.

Suits for Damages Against Hospitals

The laws bearing on hospitals and their operations probably vary more in the several states than those concerning any other social activity or interest, for the reason that hospitals, according to the modern acceptation of the term, are not themselves standardized, and have, moreover, undergone such rapid and vast evolution that no two lawmaking bodies, working independently, could possibly keep step with them in the same rhythm or speed.

One of the most flagrant variations in these laws concerns the right to collect damages for injuries suffered by patients and employees. Letters frequently come to THE MODERN HOSPITAL asking whether a hospital may be successfully sued for damages for personal injury. Several months ago a number of such inquiries came at about the same time. THE MODERN HOSPITAL conceived the possibility of getting some serviceable information concerning grounds for damage suits, not only for specific inquirers but also for the hospitals as a whole. The problem was submitted to Mr. A. J. Pflaum, for twenty years a director in Michael Reese Hospital and its attorney, and one of the prominent lawyers of Chicago. Mr. Pflaum has taken his time to look into the matter very carefully, as befits the importance of the subject, and in another column will be found a brief on the subject which forms, we believe, one of the most valuable contributions to the hospitals of the country made in recent years. Mr. Pflaum goes into the subject very thoroughly, and at least paves the way by which hospitals in every state of the Union may ascertain just what their rights and privileges—and obligations—are.

We wish to thank Mr. Pflaum, on behalf of American hospitals, for his painstaking and illuminating research and opinion.

"Unchanging China" No More

Most of us scarcely realize as yet that ancient China has declared for progress, not merely in external things like forms of government, but also in matters affecting the lives and personal habits of the individual. On another page of this issue we quote from the *China Medical Journal* an incident illustrating the spirit of the "immutable East" and the hold of racial traditions on the heart and soul of a highly intelligent Chinese. Though deeply versed in Western literature and science, this Chinese scholar on his deathbed cared for no medical attention save the incantations of a Chinese medicine man. A most illuminating contrast is furnished by the description, contained in our leading article this month, of a modern hospital, planned and administered along progressive lines, which has been established in the city of Peking—and by Chinese! Administrators, physicians, nurses, and patients—all are natives. The hospital even owes its inception to an able Chinese physician, Dr. Wu Lien-teh, the author of the article, who was educated in Cambridge, England, and who won fame by his great work during the plague epidemic of 1911 in Manchuria. Evidently we must learn to say "progressive China" instead of "unchanging China."

The very first canon of nursing, the first and the last thing upon which a nurse's attention must be fixed, the first essential to a patient, without which all the rest you can do for him is as nothing, with which I had almost said you may leave all the rest alone, is this: To keep the air he breathes as pure as the external air, without chilling him. —Florence Nightingale, "Notes on Nursing."

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
44 Baxter Building, Philadelphia, Pa.
WILLIAM H. WALSH, M. D., Secretary.

Official Bulletin for March

ANNUAL DUES

In accordance with the change in business procedure of the association, membership cards will henceforth be issued for one year commencing with January 1 in lieu of the previous arrangement whereby payments were received for parts of two years. The dues for membership for the year 1917, therefore, are now payable and should be received by the secretary on or before the date of the convention, September 10. New cards have been printed and will be issued to those who pay for the current year.

ANNUAL CONVENTION

The nineteenth annual convention will be held in Cleveland, Ohio, September 10-15, at the Hollenden Hotel. This preliminary announcement is made in order that members may make hotel reservations early. The hotel accommodations of Cleveland are none too liberal, and, unless all those planning to attend write in advance, they may experience much inconvenience on their arrival.

The Cleveland Hospital Council is busily formulating plans for the convention, and from present indications the association will receive a royal welcome in September.

PROGRAM

Attention is again directed to the desire of the president to receive suggestions as to the scientific program. Members desiring to present papers should communicate with this office as soon as possible, at the same time giving the title of the paper proposed and some indication of its contents.

REGISTRATION BUREAU

The axiomatic statement that "it takes two to make a bargain" applies as well to the work of this bureau as to any other matter. We have succeeded in listing a number of well-recommended superintendents, training school principals, housekeepers, etc., and have also been enabled to place some of them successfully; but, unless hospitals will advise us when vacancies occur, our list will continue to grow and our ability to place applicants will diminish. If unlimited funds were available, we might proceed on different lines, but, in the absence of a large appropriation for this work, we have a reasonable right to hope and expect that those who read this notice will lend their cooperation. If all the members of the association would notify this office when a vacancy occurs and also advise us whenever they are seeking a new position, our work would be much more efficient and our accomplishment greater.

Hospitals desiring the services of the bureau should supply the following information: position to be filled; requirements as to qualifications; when vacancy is to be filled; maximum salary; possibility of increase; nature of institution. (Service of the bureau open to any reputable institution.)

Members of the A. H. A. desiring positions should supply the following information: position desired; qualifications (educational); references (two); experience; when position could be accepted; minimum salary. (Service of the bureau available to members only.)

COMMITTEE WORK

The chairmen of all committees are urged to keep this office advised of all meetings and matters of importance to the association. It is also suggested that, whenever it may be deemed advisable to send out notices, questionaires, etc., copies be sent to the secretary. Any committee items of general interest sent us will be included in the monthly bulletins published in these columns.

NON-COMMERCIAL EXHIBIT

In appointing a large number of able members to the committee on non-commercial exhibit, it was the aim of the president to make this display of increasing value to the association. While past exhibits have been commendable, there has of late years been a tendency to display some exhibits of very doubtful value. Unless an object possesses some novelty or originality there is little use in showing it, and each commonplace exhibit detracts from the value of the whole, while it utilizes space that might be occupied by something of real value. Dolls, for instance, however beautiful or unique, are lacking in interest unless they are used for the purpose of emphasizing some new part of a uniform or nurse's equipment. Hospital executives are not interested in the various colors of uniforms or in the innumerable shapes of caps; but a new cuff or short sleeve, a more useful cap, shoe, or apron, or some other innovation that would mean more comfort to the nurse, would immediately attract attention and excite interest.

Ordinary clinical charts are of little interest unless some new idea is introduced for the more efficient registration of clinical data, the more facile teaching of the nurses, or the more exact recording of information obtained by the physicians. Exhibits of institutional industrial departments are always welcome, and are of intense interest to all those affiliated with hospitals for the insane, tuberculous, and chronics.

Home-made instruments or appliances, when embodying new ideas, are a great help and incentive to those institutions that do not realize the extent to which the mechanical force can be utilized when not busy with the usual routine.

The president is confident that the committee will produce an exhibit of unusual attractiveness, and merely mentions the foregoing as a hint of what may be expected.

CHANGE OF ADDRESS

Every month there are numerous changes in addresses of members about which we hear only by accident. It would be a great help to us if notification of change of address were sent this office at the earliest possible moment after it is made, particularly at this time when we are trying to get our mailing-list in shape for sending out the transactions.

The smallpox that's most "ketching" and that puts us on the rocks is the kind that's just regarded as the simple chickenpox.—Illinois Health News.

HOSPITAL ORGANIZATION IN RURAL PENNSYLVANIA[1]

Inadequacy of Hospital Provision and Equipment in the Outlying Districts—Need of Higher Standards and More Efficient Organization

BY HAROLD L. FOSS, M. D.,

Surgeon-in-chief and Superintendent of the George F. Geisinger Memorial Hospital, Danville, Pa.

Pennsylvania, with the exception of its largest cities, has a population of some 6,000,000, for the sick and injured of which are provided about 150 hospitals—some good, some bad, and a great many indifferent. Within the year the Legislature at Harrisburg listened to the statement, made by an official high in authority, that of these institutions 75 percent were incompletely equipped and grossly mismanaged. Until a few months ago, of the hospitals outside of Philadelphia and Pittsburg, not over 15 percent had adequately equipped laboratories, and, with a few notable exceptions, trained pathologists in charge of the laboratories were completely unknown. Fully 90 percent of all our Pennsylvania hospitals other than those of the great cities have no trained laboratory worker whatever, or have enrolled as "the pathologist" some member of the medical or surgical staff who possesses no knowledge of pathology beyond that requisite to the performance of the simplest laboratory tests.

More or less satisfactory x-ray departments exist in 75 percent of our rural hospitals, but not more than 20 percent of them are adequately provided with apparatus for fluoroscopy or therapy, the vast majority being equipped only for gross picture work of the bones and joints. Last winter an aged and decrepit Hupmobile made a flying tour of the eastern section of the state, visiting many of our rural hospitals and leaving chagrin and consternation behind. As a result, a great change has been taking place in many of these institutions. Along with other reforms, x-ray departments are being added and old ones are being replaced under the management of more competent men, while pathological laboratories are being introduced generally, with trained pathologists or at least full-time technicians in charge.

It is hoped that these new departments will succeed, but in this connection one recalls that the staff members of most rural hospitals know little, and care less, about pathological work. In many an institution where a younger member of the staff becomes enthusiastic and attempts to develop something in the laboratory, far too often he receives such little cooperation or his efforts are damned with such faint praise that he speedily becomes discouraged. Unless every member of the staff shows an interest by using the laboratory, it will be difficult to make rapid progress along this direction. Hospital reforms are, however, developing rapidly in rural Pennsylvania, for which we have greatly to thank the irascible, aggressive, and highly efficient president of the Bureau of Medical Education and Licensure.

Recently the attention of those hospitals desiring to be placed on the approved list of institutions eligible to give the intern year has been called to the necessity of providing adequately equipped and scientifically conducted laboratories, with special departments of anesthesia, roentgenology, and obstetrics. These demands have now been made mandatory by the attorney general and are to be enforced. More recently still has the Bureau of Medical Education emphasized its desire that each hospital regard itself as an associated and integral part of the medical teaching of the state.

The bureau, furthermore, informs us that it is its purpose to attempt to stimulate all our hospitals to be active and efficient contributors in the collection and correlation of accurate and easily accessible data in reference to the treatment of the sick. To this end have been made detailed suggestions as to uniform and practical methods of case record keeping, and these have been sent to all rural institutions. Such measures, following the establishment of the compulsory intern year, have done more to raise hospital standards in Pennsylvania than have the combined results of all our other institutional reforms for the past fifty years.

Our needs in rural Pennsylvania are clearly indicated, but, discouraging as it appears, it is yet a far cry from the indications to what is possible of early accomplishment. Philadelphia, with a population of 1,500,000, has sixty hospitals and hospital property representing $45,000,000, while 6,000,000 residents of rural Pennsylvania are served by 150 hospitals, less than half of which are acceptable. The average amount of disease among that 6,000,000, if it is to be treated by modern, scientific methods, can keep three times the number of institutions now provided constantly filled. In this connection I wish to speak of a method of rural hospital organization of comparatively recent development in this country, but one most practicable and scientific, several examples of which are now to be seen in operation in our own state.

An English surgeon returning home from a tour of inspection of our American clinics was asked what factors accounted for the surgical supremacy of the western world. His answer was that they were chiefly two in number, and their names were Will and Charley. If I were asked what was the Mayos' chief contribution to medicine, I would say, from an intimate knowledge of the men and their methods, that it was their plan of hospital organization. Nowhere in the world is there such a perfectly systematized institution for the diagnosis and treatment of disease or for the prosecution of scientific research as now exists in a little town in rural Minnesota, and I pause for a moment to pay tribute to its founders, my good friends and former kind and distinguished chiefs, Drs. W. J. and C. H. Mayo.

The fixed staff, composed of especially trained and carefully selected men, each with special work, in which he is an expert, to perform, and all working to the accomplishment of the "grouped diagnosis," is the fundamental plan of organization at Rochester, and this plan, in a small way, is eminently applicable in the development of the rural hospital. Such an organization should be constructed, if possible, on a salary basis. There are especially certain positions which, to secure the highest efficiency, should be maintained by fixed salaries—those of the pathologist and chief anesthetist especially. If properly organized, such a scheme will be productive of greater efficiency than can possibly result from any other method. There are now in rural Pennsylvania several examples of hospitals organized along these lines, and their success is unquestioned.

Efficiency is a greatly overworked and frequently abused term. As applied to the hospital, it has been measured in devious ways—that is, per capita cost, average length of stay in the hospital, mortality rate, etc. Any of these may be a factor in or the result, but rarely the measure, of efficiency. Organization is, first and last, the paramount factor, and the thoroughness and completeness with which the work is done should be the gauge. There

[1]Read before the Pennsylvania State Medical Society, Scranton.

is a great tendency to measure hospital efficiency by per capita cost, but this tells nothing except as applied to the particular institution under consideration. The purpose of the hospital is to treat and care for the patient, and the end result should be all that modern skill and knowledge, supplemented by the necessary facilities, can accomplish at the hands of carefully selected individuals composing the organization. The organization is the power that produces the results.

Appointments to the staff should be made only on merit. Especially should this be emphasized in selecting men to handle the work of the specialties. Recently the trustees of a rural Pennsylvania hospital, in their wisdom, issued a ruling that candidates desiring to be admitted to the surgical staff of the institution of which they are directors must show evidence of having taken a postgraduate course in surgery of at least two months' duration. Specific requirements of even that stringency are rarely made in our rural institutions, and eligibility to operate in 90 percent of our hospitals implies no special training. No hospital more than the rural hospital, and no class of patients more than those of the rural sections of our state, will profit by the passage of a law demanding, as has so often been urged, a special license for the practice of surgery.

There are in rural Pennsylvania, at some distance from each other, two hospitals of equal size, modern, up to date, and completely equipped. Both are situated in manufacturing towns of approximately equal population, each is the only institution in its respective community, and each has a sound and adequate financial basis. The first has no regular staff, while the other has a salaried full-time staff residing on the premises and giving its undivided attention to the institution. The second hospital accomplished more work in the first year of its operation than did the other during its first three years. The comparison is absolutely fair—the discrepancy is due entirely to the faulty methods of staff organization in the first institution.

The success of the rural hospital will depend largely on the education of the people, and to a great extent on the training of the general practitioner, on whom rests the initial responsibility in the making of the diagnosis, or at least of recognizing the need of hospital care of the case under his observation. To the general practitioner well-organized rural hospitals are bound to be of great assistance from an educational standpoint. To them the laboratories, the x-ray department, the cystoscopic room, and the operating room should be open, that they may be offered a form of invaluable teaching which, before the advent of a hospital in their community, was impossible for them to secure. Thus there may be revealed to them the marvels of bacteriology, of serology, of medical chemistry, of fluoroscopy, cystoscopy, etc., so that they may realize that these are not matters far beyond their ken and reserved only for their more erudite brethren of the city, but are perfectly understandable and can be of the greatest practical use to them in their rural practices. Let clinic benches in the operating room be reserved for them at all times, so that they may acquire a knowledge of living pathology and thus tremendously change their viewpoint of surgical lesions generally. Permit them to realize the danger of the neglected suppurating process, whether it be in the appendix or in the medulla of a bone. Let them realize, as the result of actual demonstrations in the operating room, that gastric and duodenal ulcers are not rarities, that gall-bladder disease, either with or without stones, is exceedingly common, and that the mythology of "acute indigestion," "gastralgia," and what not, the terms they have applied to these conditions, has no place in modern medicine. That there is tremendous need for such education is illustrated by the fact that a short time ago two patients were permitted to die from perforating duodenal ulcer within the shadow of a well-equipped hospital, while about the same time a patient with the same condition was removed from a train by a Pullman conductor and rushed to the hospital, where his life was saved. Surely we must not permit railroad men to become better diagnosticians than ourselves.

The principal factors in the success of the rural hospital are depending on the following: (1) a clearly defined need for a hospital in the community; (2) the construction of an adequate and well-equipped institution; (3) a sound financial basis; (4) a competent and efficient administrator who sees to the maintenance of high standards in the staff; (5) a broad, sensible policy, giving the hospital's executive full authority and responsibility, in which he has the complete support of the trustees; (6) thorough and scientific care of the sick; (7) individual investigation of the financial resources of all patients and discouragement of indiscriminating charities; (8) an efficient system of purchasing, so arranged under the direction of the institution's superintendent that he may be free to take advantage of all changes in price.

When these fundamental principles thoroughly enter the minds of our trustees, and the tremendous need of more and better hospitals in "up-the-state" Pennsylvania becomes apparent to our legislators and public-spirited philanthropists, then and not until then will our rural sections receive hospital service scientific and adequate, and in keeping with our boasted twentieth century medical progress.

What the Sisters Should Contribute to the Team-Work[1]

BY MOTHER M. ESPERANCE, St. Mary's Hospital, Minneapolis.

What should a sister contribute to the "team-work" of a hospital? This question I am supposed to answer—tentatively, of course, and by way of suggesting profitable discussion. Now, though the nature of team-work has been ably and clearly explained, still it will be an assurance for the present writer to state in her own way what she had in mind as team-work while preparing this short paper.

Ideal team-work has always existed among all our Catholic sisterhoods, and it is by these means—namely, united effort and hard hand-in-hand work—that, notwithstanding our many difficulties and almost insurmountable obstacles, we have accomplished so much. The expression "team-work" may call up to one who, like our sisters, is not familiar with popular literature a vague picture of two horses toiling up hill under the whip and tugging furiously and unevenly at an overloaded coal wagon. Certainly this is not the meaning we are to take, and indeed "team-work" in this sense would not serve as a useful illustration in our work. In the popular acceptance of the word, "team-work" is derived from the domain of sport, and particularly that of college games—the football gridiron, the baseball diamond, the running track; thence it has passed to other departments of life, notably business and industry. Nevertheless I intend to use the word as borrowed from the campus of the schools, because in this view it bears the connotation of intelligent aspiration and unselfishness, a generous willingness to

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

train and strive together, with unmercenary outlook and with loyalty to school and fellow-members of the team; and then their team-work means submission to coach and trainer—it means the sacrificing of self for the success of the team and the surrender of individual display and the acclaim of the grand stand. Surely in this sense the word has an evident application to the team-work desirable in a Catholic hospital.

Indeed, we sisters need to bring into our service of the sick the inspiring cheerfulness of play, and for this purpose we ought to "get into the game" every hour, in successful competition with ourselves and our previous efforts. Like the university student, we are proud to belong to an institution that can call out and direct every ounce of unselfish energy, for truly our hospital is an alma mater in the education which it is constantly imparting to intellect and will; and, more than this, it is our career and a life-lasting opportunity. Are we not dedicated to the love of our neighbor? With the physician we are toiling every day and all the time for the healing of the sick, the least of whom Christ our Lord puts in His own place in the promise of everlasting reward. Then, with God's annointed priest, we are seeking to save the souls of men, and, though our ministry in this respect is indirect and secondary, it is frequent, and we know how effective it may be made, through Divine help, by prayer, unlimited kindness, and the word in season. Moreover, in all this organized endeavor we are aiming not at the mere alleviation of pain, but at the prolongation—one might say the restoration—of human life, which is the basis of all blessings, natural and supernatural.

Let us look at the practical side of our subject. As director of our team-work, the physician (the captain, as it were, in the game for health and life) claims the first place in our consideration. What is the sister's place respecting the physician in charge? It is, first of all, confidence in his skill—a confidence which she will tactfully encourage in the mind of the patient, and, secondly, an exact compliance with his orders. To make sure of such directions, she will insist that they be written and signed by the physician. In case orders are telephoned, they should be signed by the one who received them and by the physician on his next visit to the hospital. To further the work of our doctors should be second only to solicitude for our patients; consequently there should always be a perfect understanding between the attending physicians and the sisters, as a lack of this understanding may result in the lessening of good results, if not in positive failure.

We have heard it remarked that some sisters resent criticism made by physicians regarding the care of their patients. There are always two sides to be considered. How are these criticisms or suggestions for betterment made? Is it in the presence of patients and pupil nurses? There is always a proper time and place where such criticisms and suggestions would be and are gratefully received. No institution is perfect; some are far from it. In most institutions constructive fault-finding, which really means suggesting a better way in doing some one thing, will be welcomed if given in the right spirit, to the right person, at the right time. It is worthy of note that always the same few doctors have to cope with these little difficulties. How much easier for the success of the team if these difficulties could be minimized in place of exaggerated. Many physicians have the happy faculty of doing this, and if all could acquire that faculty, also the habit of cooperating and lending the assistance they could so easily and are well able to do, how much easier the work would be for all concerned. We must acknowledge there are times when criticism is deserved; and should not such criticism, in place of wounding, stimulate us to acquire greater efficiency? Hospital sisters have always done their work well, but within the past few years science has made rapid advances in all lines, and particularly in what pertains to prevention of disease and the care of the sick. As far as possible we should be ready to make use of the best and most practical modern methods. Have not some of us been a little slow in adopting the new methods in our work? The superintendents of some hospitals declare that, unless their hospital is richly endowed, they are unable to secure a capable head for each department, as the cost is prohibitive. This ought not to be a difficulty with us, as we have the material in our own communities; and, as we are resolved our hospitals shall be inferior to none, special advantages must be and are being given to those destined for such positions.

The sister's position as head nurse of a department does not merely mean sitting at a desk, making a few rounds with the doctors, or writing a few orders. It requires her to be constantly on the alert—to frequently visit the patients and take a personal interest in each. She should not only be kind, punctual, industrious, economical, and dignified, but should also instill these qualities in the pupil nurses. The sister is identified with the hospital more completely than any and all of her fellow-workers; yet she must not allow the recognition of this fact to lower in her own mind the importance and necessity of medical supervision. She is not a doctor of medicine, and must not admit the thought that her experience and intuitions can ever supplant the expert direction of a physician. As a sister is closer to the institution than others, she is naturally sensitive to professional criticism regarding the hospital. But even when a zealous physician, who is eager for ideal conditions, shows impatience over the material limitations of the house which never carries an endowment, but generally carries a mortgage, she will not show resentment nor relax in compliance with directions or interest in the case.

The sisters' team-work means also cooperation with the medical intern, who holds an important place in the present-day hospital. As he is a graduate physician, he is entitled to receive from other members of the team the full respect that is due to his professional status. During the period agreed on he is a resident of our house, and for the patients as well as the sisters and nurses there is relief in knowing that, whatever may happen, they have a trained physician within instant call. In return he finds an invaluable opportunity for practical training and special observation in the institutional treatment of diseases, so that we hospital sisters may rejoice in the thought that thus in a certain real sense our organized work presents graduate courses to able young physicians of character and promise. The intern is not the physician in charge, except in cases of emergency. Ordinarily he is the qualified assistant, whose duty it is to attend the directing physician in visits to the wards and private rooms, to follow up the latter's orders, and even to interpret them according to need. It goes without saying that in a sisters' hospital, just as well as in other similar institutions, he would seriously impair the team-work if he should lessen the patient's confidence in the other physician or seek to supplant him. The intern's cooperation has a notable value in certain special employments, such as x-ray examinations, the microscopic

analysis required in modern diagnosis, and assistance in the operating rooms.

Evidently it rests with the management to take thought and to seek expert advice in order to get the best use of our interns' services, especially as the lessening number of medical graduates cannot meet the demands (for interns) from an ever-increasing number of hospitals. In this outlook we sisters must not be less alert than others. By reason of our religious training we may check interest and enthusiasm by an undue severity on trifling displays of levity by these young men, or their lapses into the boisterousness of the undergraduate, yet this does not promote the most effective cooperation. Good-natured patience and persistent deference will be rewarded by the habitual gravity and the thoroughgoing sense of professional responsibility for which we look in a doctor of medicine. The intern may feel at times that there is something repressive and exacting in the discipline of a house managed by religious women. This drawback, if such it be, is, however, made up for by the experience he gains for practice later among patients who will prefer to be cared for in a sisters' hospital. He will easily come to realize that in no other establishment are conscientious work and fine professional courtesy more highly esteemed and more lastingly remembered.

The pupil nurse has a definite and prominent place in our organized teamwork. Without a nurses' school the modern hospital will not receive a high rating from medical associations, and, then, the reputation of the hospital depends in a large measure on the practical efficiency of such a training school; yet only by the use of the requisite means can we make this department a success—especially by competent supervision, graded instruction, the right kind of living conditions, well-managed stimulating discipline, and by good measure of kindly sympathy and discerning encouragement. Under direction the nurses do much of the hospital work; financially, however, the plan does not pay for itself even in a well-conducted school of nurses. Moreover, patients complain that they are not looked after by sisters as they had expected, but by young women—apprentices—who are practicing on them and who are frequently frivolous, inattentive, and gossipy. Nevertheless, the department of pupil nurses must be kept up. We shall need such assistance in our work. The increase in the number of sisters is not keeping pace with the multiplying of our hospital activities, and we can meet or prevent the complaints just indicated by systematic instruction and ordered supervision. These young women recruits can be made valuable auxiliaries, especially as they enter on their training of their own deliberate choice and possess strong incentive to industry and sustained effort in the hope of achieving an honorable and remunerative career as graduate nurses.

One point I should wish to emphasize—the sister deputed by the superior of the hospital to take charge of the nurses must have ability for practical management. She must not be content with making assignments and delivering orders. She must follow up direction, and bring the pupils to realize that their training is as exacting and systematically progressive as the training for credits or a degree in a business college or a professional school. Their employment is growing in importance and honor, as we can see from the position accorded to the visiting nurse in the organized sanitary crusades of the great cities. Now, this widening outlook only stresses the fine, high qualities of mind and heart that are looked for in a graduate nurse. I fear that we sisters do not sufficiently insist on the development of character in the training of pupil nurses. This is due in great part, perhaps, to the fact that we have not fully caught up with a condition of things which is comparatively new. If all these young women came from ideal homes, and possessed, with a fair share of mental culture, that training of the will which at least Catholic schools make so much of, there would be little call for emphasis on this phase of the subject; but in the face of present-day facts and social conditions we cannot presuppose that these beginners have developed the gentleness, patience, well-governed temper, the kindliness, true sympathy—yes, and the unswerving honesty—that are indispensable for the success of a graduate nurse. What physician will recommend a nurse who is not kind and soft-voiced, who gets sulky at her work or gives way to flings of temper? We ought to insist especially on professional reticence. The young nurse must be told pointedly and repeatedly that it is dishonorable and wrong to talk to patients about other patients, or to discuss hospital affairs and the diseases of patients with outside friends and the members of her family. The lack of such reticence can work much harm to the hospital and to her own prospects.

If we attach as much importance to character as to the all-absorbing curriculum, we must furnish the motive force by giving systematic encouragement to the spiritual development of our pupil nurses. Nor can this be left to haphazard, to good example, and to the pious tradition of the house. There must be definite lines of influence drawn with penetrating intelligence, and followed out by untiring patience and tactful discernment. The aim of such training is, of course, not the aim of the religious novitiate; it is such as will fit our pupil nurses for splendid womanhood in the world, and for success in a useful and honored calling. In promoting this rounded training we cannot fail to invigorate the teamwork of our hospitals.

For his priestly ministrations, the chaplain holds the place of highest honor and worth in the teamwork of a Catholic hospital. He stands for the patients' spiritual interests, which we sisters are eager to promote, and, as we believe that the soul is incomparably greater than the body, so we hope and pray and labor that the corporal works of mercy to which we are devoting our lives may be fruitful occasions for the higher and grander works of the spirit. Like Saints Cosmas and Damian, physicians and brothers, we seek to save the bodies of men, that we may help to save their souls for life eternal. Moreover, most, if not all, of our Catholic patients come to us by preference under the unexpressed agreement that their spiritual interests will be safeguarded. We know that soundness of mind is often dependent on soundness of body. We know also that the peace of soul which generally results from sacramental ministrations is a recognized help toward therapeutic success. In our cooperation with the reverend chaplain there must be, as in all human affairs, some little misunderstandings, but I have never known any want of good-will on the part of the sisters in furthering his exalted and privileged work.

In the team-work of the hospital the patient "plays center." He must be an active participant, and not simply a figure that is passive. After all, the game of recovery is his, and his will must be actively enlisted in winning the score. For him the distinctive advantage of the hospital is the ordered and effective direction, that does not tolerate his moods and whims, or the easy-going negligence of others. His cheerful, perfect compliance with this direction is his contribution to the team-work, which the sister must aim at securing. For this purpose she

must deal personally with the patient. She will not content herself with reports made by others, or a general and distant supervision. She ought to know all the patients placed under her care and to study them individually. Her words of encouragement will be as commands to call out his will to live and to get well, and his compliance with the physicians' treatment. Indeed, this is part of the hope he had in coming to our hospital—that he will be cheered and heartened by the charity and sympathy associated in his mind with the sisters' religious garb.

If the sisters have the spirit of religious life, they will work splendidly with members of their own community, and in this same spirit will be predisposed to cooperate heartily in the more general team-work of the hospital. We know from experience how generous and untiring the sisters are, showing by the kind of service rendered that their work is not merely an employment, but a grand opportunity of following cheerfully, exactly, and very closely in their Master's footsteps the way of self-sacrifice.

In conclusion, team-work is simply cooperation, an organized working together, that is active, steady, and intelligent. It means all this in the connotation of mental qualities and outlook indicated above, and on the sisters' part it means practically and in the concrete a working together with physician, intern, and nurse, with the patient, also with the reverend chaplain, and of course it manifestly presupposes harmonious cooperation among the sisters of the community; and, let us insist on it, this working together must have the eye of the intention, not on individual exploitation, but on resultant efficiency in the work of the hospital. In this spirit we shall be keen for improvement, and consequently quick to take correction or to learn even from inconsiderate critics as well as from skilled instructors, if only thereby we can help "win the game" for our team and "run up the score."

THE DIAGNOSIS OF HEART CASES

The Electrocardiagraph Is Necessary in Every Hospital—Installation Must Be Carefully Made by Trained Persons

BY ASA BACON, Superintendent Presbyterian Hospital, Chicago, and FRED M. SMITH, M. D., Electrocardiologist Presbyterian Hospital, Chicago.

To raise the standard of efficiency in a hospital it is necessary to install, from time to time, such new equipment as medical science has discovered and proved to be practical. The electrocardiagraph should be installed in every hospital as soon as it is possible to raise sufficient funds. This is something that will appeal to philanthropic people, if brought before them in an intelligent way.

The value of the electrocardiagraph is becoming well established. As an instrument of precision in the diagnosis of cardiac irregularities, where a correct diagnosis is very important from a standpoint of treatment, it has no equal. The time is coming when it will be installed in every modern hospital. It will become a department in the same way as has the x-ray and pathological laboratory.

The electrocardiagraph is an instrument by means of which the electrical reaction generated by the contraction of the heart muscle is registered on a photographic plate or film. Briefly, it is composed of an electromagnet, between the poles of which is suspended a very fine conducting fiber, measuring about 0.002 mm. in diameter. This fiber is magnified by microscopes and projected on the screen of a camera by an arc light. When a patient is put in circuit with the fiber, the latter is made to vibrate, and the vibration is registered on a moving plate or film. The tracing gives definite knowledge in regard to the contraction of auricles and ventricles, especially from the standpoint of type and their relationship to each other.

To operate the instrument, electrodes are attached to the patient. These electrodes are connected to the fiber by the way of a switchboard, which acts as a protection to the very delicate filament. The arc light is turned on and the fiber carefully focused on the camera screen; it is then sensitized to a point where, when 3 millivolts are thrown in the circuit there is a deflection of 30 mm. In order that all cardiagrams may be standardized, records are taken from three leads of the body. Lead 1 is the left and right arm; lead 2 the right arm and left leg; lead 3 the left arm and leg. These leads are employed universally in routine observation.

The electrocardiagraph is a very delicate instrument, as indicated by the fact that, when standardized, 3 millivolts

Fig. 1. Patient on third floor, prepared and ready for cardiagraph tracing. Nurse receiving orders from operator in basement.

cause a deflection of the fiber of 30 mm. It is therefore necessary that it be installed in a place as far remote as possible from outside currents, which, if present, often cause a vibration of the fiber which will seriously interfere with the obtaining of a correct, well-defined curve. To ward off these difficulties, the electrocardiagraph at the Presbyterian Hospital was installed in the basement, with a dark room connected for developing the photographic films.

It is sometimes inconvenient and often impossible to bring all patients to the machine for the taking of electrocardiagrams; stations are therefore established at convenient places throughout the hospital, where the patients can be attached to the machine without removing them from their beds, when their condition makes this desirable.

These stations are connected to the electrocardiagraph by wires, run either on the outside or inside of the building. Here again the greatest precaution must be used in avoiding other currents by proper insulation. At the Presbyterian Hospital the wires are run on the outside of the building, encased in lead, outside of which is galvanized iron casing, heavily painted on the inside. This method of

insulation gives practically absolute protection from outside influences.

It is necessary that the operator have means of communication with the person in charge of the patient at the station. The patient must be attached correctly and be warned to be absolutely still and relaxed while the record

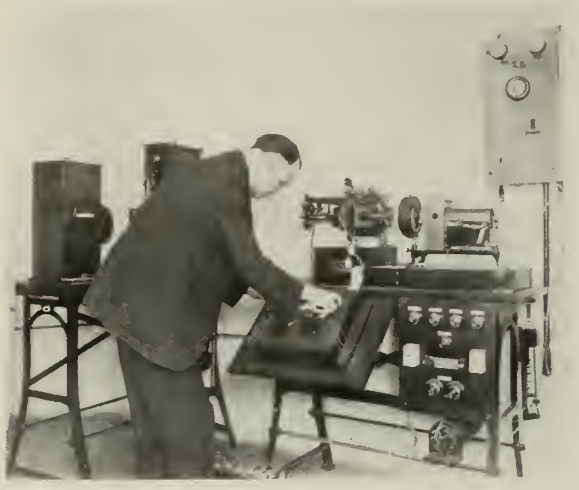

Fig. 2. Dr. Smith operating the electrocardiagraph machine in the basement.

is being taken. To furnish these facilities, telephones are established at each station and in the room of the operator. The system is so arranged at the Presbyterian Hospital that the operator can remove the receiver, push a button and call any station that he chooses.

To illustrate the value of the electrocardiagraph more in detail: A patient comes into the hospital with marked

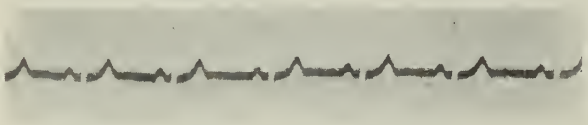

Fig. 3. Tracing from normal heart, lead II.

irregular heart. It is very difficult to determine, by the ordinary means of examination, whether the irregularity is due to extrasystoles or auricular fibrillation. In the one, namely, extrasystole, treatment by means of digitalis is absolutely contraindicated, while in the other, namely, auricular fibrillation, digitalis is the treatment employed.

Fig. 4. Auricular fibrillation and myocarditis, lead II.

Auricular fibrillation is the cardiac condition, probably above all others, which is especially amenable to the effects of digitalis. The diagnosis between these two conditions can be absolutely established, thereby giving the patient the benefit of the best facilities of diagnosis in this line.

The installation of the apparatus is a highly technical piece of work that may not be undertaken except by a trained person; the apparatus is composed of a number of pieces of the finest scientific mechanism which must be correlated in assembling. One of the younger members of the medical staff, who is to be charged with its operation, may become qualified after a time spent in a hospital where the apparatus is in use, or a specially trained mechanician may be employed to install and operate it.

NURSING THE INSANE IN CHINA

Occupation a Factor in Treatment—Kindness Shown to Patients, With No Instance of Abuse

There are but three or four institutions in China where the insane are treated, writes Miss H. J. Stockton, David Gregg Hospital, Canton, in the *China Medical Journal.* One institution in Peking, under native control and management, can hardly be called a hospital, being simply a place where the insane may be taken, but where no real nursing is done. The second is a ward of about thirty beds in connection with a hospital in Foochow. Insane patients are also received in a hospital in Soochow. The Refuge for the Insane in Canton cares for 500 patients, men and women. The cottage plan is employed, each cottage containing usually a ward of eighteen beds and two small wards for excited patients.

Occupation is an important feature of the work. The women patients make and mend clothing, clean rooms, spin thread, etc. The men work in the kitchen, carry food, clean, paint, whitewash, etc. The continuous bath is used for excited patients. It is said that no instance of roughness or ill treatment of patients has been known. Miss Stockton remarks that, considering the treatment usually accorded to this class of patients, the kindness and consideration shown here is remarkable. Very little restraint is used, and that only in the most necessary cases.

There are at present only two foreign doctors and the wife of the founder in charge of the institution, though a third doctor and a nurse are expected to join the staff soon.

POTATOES A LUXURY IN HOSPITALS

Rice, Hominy, Cornmeal, Beans, and Macaroni Substituted in One Pennsylvania Institution

The Allentown Hospital, Allentown, Pa., has cut in half the normal ration of potatoes, which the institution cannot afford to buy at the present high prices, according to newspaper reports. At the Homeopathic State Hospital, Rittersville, Pa., which formerly consumed 60 bushels a week, potatoes have been cut out entirely and substitutes introduced in the shape of rice, hominy, cornmeal, beans, scrapple, macaroni, and spaghetti.

In all of Allentown's charitable institutions the supply of potatoes is being conserved to the utmost, and when that supply is exhausted none will be bought until the prices fall. At the jail and the county home the potato fare is being cut to the utmost.

Public Health Nursing Course at Battle Creek

The Battle Creek Sanitarium Hospital Training School for Nurses has added to its curriculum a course of lectures and practical service in public health nursing. Lectures and instruction will be given by persons who have had special opportunities and experience in antituberculosis nursing, baby welfare work, prenatal care, rural and city district nursing, school nursing, institutional, industrial and welfare work, dispensary work for both inpatients and outpatients, mothers' and children's clubs, etc.

DEPARTMENT OF NURSING

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Inspection of Training Schools

BY BERTHA HARMER, Teachers College, Columbia University.

The validity of any system must be weighed in terms of underlying principles. The purpose of this paper is, therefore, an attempt to formulate some of the essential elements which may guide, direct, and bring to a successful issue the inspection of our schools. This issue is the standardization of training schools for nurses.

As the problem is an educational one, it would seem logical to turn for suggestions to the numerous surveys made of other schools. These surveys have been of immense educational value. While it is stated, however, that "much of the success of any school system depends on the quality of supervision," and that "expert constructive supervision is the most potent force," acting "as a pressure on everyone to become stronger, more useful and efficient," in the judgment of the survey staff, supervision has been one of the weakest phases of the school system.

The reasons advanced for this lack of efficiency are: (1) that the inspectors have had no definite preparation for this enlarged field, being selected for their personal ability and outstanding success as teachers; (2) that the aim has been too narrow; (3) that too little time has been devoted to supervision and that the tests are too superficial; (4) that too little thought has been given to definite concerted methods and recording of results; (5) that little time has been devoted to free discussion and little criticism of a constructive nature advanced. The shortcomings rest with the system and not with the supervisors. Numerous instances are quoted in which supervisors of unusual ability and vigor have been able to surmount the difficulties.

There can be no purpose in recording these weaknesses save for the suggestions they offer in building up a program insuring the growth and development of our profession. Dr. Strayer points the way in the following quotation:

"Surveys, if they are to serve any useful purpose in education, must be constructive. We judge the work of a supervisor by the growth and development of those who are supervised. In like manner, the survey, as a supplementary agency, is to be judged, not in terms of the weaknesses or deficiencies which it discovers, but rather by means of the suggestions for development and improvement which are contained in it. It is necessary, of course, to discover wherein a school system is weak before any adequate remedies may be suggested. But the survey which is concerned mainly with a statement of deficiencies cannot accomplish much in the way of improving the work of teachers or administrative officers, and will probably result in destroying that public confidence which is so essential for the development of a strong school system."

This inspector, then, is to be an organizer, an administrator, an educator—a teacher of teachers. She is to be that "potent force" bringing the knowledge, enthusiasm and inspiration which is to make everyone "stronger, more useful and efficient." She enters as the specialist with wider professional knowledge as the result of her experience and with the impersonal, unbiased attitude of the outsider. She must be able to put her finger on each weak spot and suggest "a cure for every ill." She is like the doctor who carefully studies his patient in the light of the past and present; who studies and weighs each symptom in relation to the other and with the whole, and on this analysis prescribes the treatment. To do this she must know the history of the hospital, its organization and administration; she must know good equipment from bad; she must understand hospital construction in all its phases of size, relation of wards, the lighting, heating, plumbing, ventilation, and all those phases upon which the welfare of the patient and the efficiency of the staff largely depend. She must understand teaching methods and teaching problems. In a word, she must be able to set standards and suggest practical means toward their attainment.

Inspection of our schools, therefore, to be rational and constructive, must be conducted by one with unusual abilities, both natural and acquired. She must possess not only high ideals, but an organized knowledge of relative facts, keen judgment and sound common sense. An inspector must be able to distinguish between essentials and non-essentials, between cause and effect, between temporary and permanent values. She should be familiar with and take an active interest in nursing organizations and activities. Not only should she be familiar with the numerous fields opening up to nurses; she should also see them in the light of the past history of nursing and in their relation to the trend of development in other social, economic and educational problems.

Upon this ability to study the hospital and training school, not as isolated units but as links in a great educational system, depends the constructive value of inspection. This view is sometimes lost sight of by the superintendent, who is burdened by a host of details, important and unimportant. Here, perhaps, is where inspection is most needed. The inspector comes to broaden the horizon, to stimulate and inspire with new ideas and undimmed vision of the goal—the standardization of training schools. If this is to be accomplished, it must be through the sympathy and cooperation of the public.

How is this to be accomplished? The inspector may accomplish a great deal in public addresses by informing the public of the relation of the nurse to the community and the responsibility of the state toward her education. But this is not sufficient. Education is a slow, gradual, continuous process. The inspector must create this concept in the mind of the superintendent and through her in the minds of pupils and graduate nurses. She must stimulate a desire for growth and cooperation and suggest means by which this desire may become effective in fact. In the following means suggested by the inspector all may participate.

A community is not going to be interested in something of which it knows little, neither is it going to be concerned with a problem not felt to be vital to itself. At present it is safe to say that few people in a community are conscious that the training of the nurse is a problem. Training schools for nurses are not found listed with any other educational institution, and therefore receive no support for

educational purposes. The first step, then, should be to interest the public, to make laymen feel that the education of the nurse is a problem and that it is their problem. This cannot be accomplished through scientific journals, but must come to all classes through the usual avenues of approach—the daily papers and popular magazines. Superintendents may complain that they are too busy to devote their time to writing articles for publication. The "fascination of authorship," that peculiar, elusive, tangible form of "lead poisoning" of which Oliver W. Holmes complained, is, indeed, not a common complaint. Nurses who supplement their training by advanced study find any form of self-expression a most difficult task. Pupil nurses, therefore, in whom a desire to serve and cooperate has been awakened, could be encouraged to write on selected topics with a great deal of profit to themselves and others. This would stimulate an interest in their profession, in the various fields of nursing, in different types of humanity, and awaken that social knowledge and interest which is so essential to their efficiency. Topics could be carefully selected by the instructor according to the pupil's ability and experience, or chosen by the pupil herself and sanctioned by the instructor. This activity would promote self-expression, originality, initiative, the spirit of cooperation, the ability for leadership—factors felt to be sadly lacking in our present system of education. The system in any school then would be judged not only by class-room inspection, but also by the achievements of those trained by that system. New life then should flow from the inspector to the superintendent, to the members of her staff, through the class-room instruction to the pupils, and through the pupils to the public, bringing a rich return in interest, cooperation and support.

The aim of the inspection, again, is to standardize training schools for nurses—to set standards and provide practical means toward attaining them. The purpose is to put nursing on a basis worthy of professional status, so that the word "nurse" will mean not merely one who is engaged in the care of the sick, but one, and only one, who has mastered the fundamental principles and technic of nursing. Again, it is futile to talk of standardization except by educating the public and gaining its support. A study of the registration laws in the various states shows this clearly. Perhaps it is equally necessary to broaden our own field of knowledge and mental outlook. It is of the utmost importance that we all know toward what we are working and what we are expected to do. A wise inspector, therefore, will constantly seek to keep before the hospital staff and boards of trustees the conditions and courses of study necessary to the education of the nurse. She will also seek to acquaint superintendents with the meaning and purpose of records kept. With this in view, therefore, it is suggested that each superintendent be provided with the cards or forms used by the inspector and accepted by the state. This will focus her attention on the whole content, the breadth and scope of nursing education, and should insure a more complete, organized report, leaving more time for discussion. This report may or may not be filled in by the superintendent, but in any case is for her exclusive use and forms no part in the official inspection. It serves as a stimulating guide in mapping out her own program. I am aware that this proposal is open to criticism. Several superintendents to whom the suggestion was made objected on the ground that it would enable the superintendent so disposed to prepare a fictitious report. It would, indeed, make her aware of deficiencies, and it may seem unnatural and even unreasonable to expect a superintendent of a so-called training school to pass her own death sentence. Perhaps, after all, such a fictitious report might be the surest way of doing this. A knowledge of deficiencies might also enable her to overcome them. To detect errors and weaknesses is the negative side of our program; to stimulate and inspire, to build up a sense of responsibility and a composite picture in the minds of all alike, is the positive side. The unanimity of aim, the cooperation it should promote, outbalances any possible misuse of such information.

Standardization of schools involves the requirement of a definite preliminary education, an approximate uniformity in the courses of study followed as to content and the hours devoted to them. It involves an approximate uniformity in laboratory experience; that is, experience in the wards and the hours devoted to each phase of nursing. Most essential is a uniform system of recording facts and uniform state examinations, both practical and theoretical.

Too much emphasis cannot be laid upon raising the standard of preliminary preparation. This is fundamental to a sound professional education. Since the requirement of one year of college work preparatory to entering the field of medicine, medical boards report a better class of students, a higher grade of examination papers, and fewer failures. In our own schools the system cannot always be measured by the product. In schools which have not progressed as regards the content of subject-matter and teaching facilities, but in which the preliminary requirements are high, the product is frequently better than in those schools which have the best equipment, but are unable to secure students with a liberal education. In this question, however, it is necessary to go slowly. The inspector can see, at least, that the state requirements are rigidly met.

A study of the curriculums of various training schools shows marked variations, not so much in the subjects studied as in the time devoted to each. A national curriculum is about to be issued, giving lists of reference books and outlines of all subjects to be taught. This will represent the theoretical course thought to be ideal at our present stage of development—a goal, but not the requirement of all schools. This book should form part of the equipment of the inspector. Discussion of its advantages would be suggestive even though the day of its complete realization be remote. Also in class-room facilities and equipment our schools are far from being standardized, and it is not always in the wealthiest schools that modern standards have been adopted. Plans of class-rooms, lists of equipment, with the addresses of firms where purchasable, a pattern for homemade dolls, illustrations of simple, inexpensive anatomical charts which may be made by the instructor, are all suggestive in solving this very practical problem. Public libraries, free pamphlets, museums, specimens from the pathological building or from the butchers—the use of all these is to be recommended. The services of outside specialists also may often be obtained for lectures on topics related to nursing.

Judging from personal experience and subsequent visits to numerous training schools, it is evident that a large amount of easily available clinical material is being overlooked for want of oversight. Experience in pediatrics, in orthopedics, in dispensaries and diet kitchens, affiliation with hospitals for the mental and nervous or for contagious diseases, frequently forms no part in the education of the nurse. Even in large hospitals offering every facility, the training of the nurse is often not well balanced. In assigning nurses to ward duty, very often some department is lost in the shuffle, so that the nurse at the

completion of her course finds herself with little or no experience in one or more branches.

The College of Engineering in Cincinnati, to avoid such irregularities, has prepared a simple chart, mapping out the path each and every student should follow in his laboratory experience. A chart is kept for each student, indicating this path, and in addition a second line indicates the path actually followed by the student, with explanations for any deviations from the prescribed course. Their conditions parallel ours. In the engineering profession the students receive their theoretical studies in the college, their laboratory experience in the shops. Here they acquire a high degree of technical skill in handling tools and solving problems. The nurse receives her theoretical knowledge in the class-room, mastering the underlying principles of nursing. Her laboratory is the ward, where she also must acquire a high degree of technical skill and first-hand knowledge of disease. A similar chart, prepared through the combined efforts of the inspector and superintendents, would help to eliminate many existing irregularities. Putting facts down on paper is one of the surest ways of clarifying our ideas and focusing the attention on essentials. Our experience in keeping temperature charts shows the value of a graphic representation of conditions.

Another point in which inspection shows our schools to vary is in the number of hours per week spent by nurses in actual nursing. An increasing number of schools has been able to introduce the forty-eight hour per week system; others, no doubt, could be induced to adopt this method if it were presented to them as possible and practical. It might hasten the day of uniformity in this matter if the inspector carried, in addition to a list of schools where this system was successful, tentative plans for hospitals of various sizes.

The majority of our schools are still departments of hospitals. A few are now departments of universities, the hospital serving as the laboratory for both nurse and medical student. The advantages of the latter arrangement are self-evident. If the training school is to remain closely associated with the hospital (and it is desirable that it should), but not one of its departments, it will be necessary to have accurate accounts of its maintenance. A uniform system of accounting should, therefore, be adopted in all training schools. This system should be simple, accurate, complete, and uniform. The understanding has been that the expense for lodging, instruction, etc., of the nurse, balanced the value of her services rendered. What are the facts according to business methods of accounting? The installation of such a uniform system would require the combined efforts of the inspector and superintendents.

Nursing is a profession. It is nevertheless true that the superintendent of a training school is in the business of educating nurses. She it is who formulates and directs its policies. Like every business manager, she must have and has not only a definite program for today and tomorrow, but also a tentative program for the coming year. The inspection with the inspector may be looked on as the official stock-taking. I should like to quote Dean Russell of Teachers College on this point. He says:

"The business man takes account of stock once a year in order to ascertain his financial standing. We who are engaged in professional pursuits would do well to follow the business man's example. In our case, however, the reckoning is not easily reduced to dollars and cents. Nevertheless, the present worth of what we possess, our abilities, our tools and instruments, our aims and our purposes, can be evaluated in terms of effort and accomplishment. We have a stock in trade that is valuable precisely to the extent that we can use it efficiently in the service of some worthy end. Our ability to use what we have in a way to meet the approval of those for whom we work fixes the value of our professional capital."

The business man, on determining his financial standing, does not close up his business, but invests his capital so as to produce the greatest profit and the finest product. The product of the training school should be the socially efficient nurse. A program on paper may not be worth the paper it is written on, but a tentative program on paper, backed up by earnest purpose in the mind of the director, will go a long way toward accomplishing a definite result. This applies equally to the inspector who starts out to inspect a school. Would it not be wise, therefore, to ask each superintendent to write out a tentative program for the following year? After the inspection and discussion, if this plan still seemed feasible, one copy should remain with the superintendent and one should be filed away with the inspector's report. The inspection the following year would show to what extent this program had been carried out and wherein further suggestions and support were needed.

No business (or profession) can be at a standstill. It must show either a debit or a credit balance. A business which continues to show a debit balance promptly winds up its affairs. In a business the debit balance is in dollars and cents—in schools of nursing the debit balance is the inefficient nurse. The process of oxidation, a process necessary to the growth of all active living things, is brought about by either adding a positive valence or removing a negative valence.

With the hurry, worry, daily disappointments, and monotony of routine, we are all apt to sink into a rut and to lose sight of the goal. "Follow-up work," therefore, forms an essential part of any program of inspection. For "Behold, a sower went forth to sow, and when he sowed, some seeds fell by the wayside, and the fowls came and devoured them up; some fell upon stony places where they had not much earth; and forthwith they sprung up, because they had no deepness of earth: and when the sun was up they were scorched; and because they had no root, they withered away. And some fell among thorns, and the thorns sprung up and choked them. But others fell into good ground, and brought forth fruit." The inspector comes to measure the harvest, to reveal new developments and suggest changes necessary to meet the needs of our rapidly growing profession.

It has been said that the aim of inspection is to standardize training schools for nurses. In a rapidly growing profession it is essential that the standards which determine our actions be common to all—that we carry only one banner. Today, however, there are conflicting standards, because they are frequently founded, not upon a scientific basis, but upon sentiment and opinion. Opinions are usually based upon the limited experience of the individual. To round our efforts into one channel, to make our standards sound, they must be founded upon a scientific basis. This scientific basis is inspection—careful observation and collection of facts; expert analysis of data and presentation of conditions in their proper perspectives and relationships. Inspection is our searchlight, which not only shows us conditions as they are, but also searches out the past to tell us why they are so and throws light on the path before us. The conclusions drawn from these statistical data should determine our standards and the methods by which we must attain them.

Some of the points upon which opinions differ are: the

control of the school, the preliminary educational requirements of the nurse, the number of hours to be spent per week in actual nursing, and the amount of theoretical knowledge necessary. We have schools which are departments of universities, others which are departments of hospitals; schools which require four years' high-school education, others which require only one year of high school; schools with a definite preliminary course, definite curriculum, qualified instructors and teaching facilities, others with none of these; schools in which the students pay for their tuition, others which pay students for their services; schools which work on the forty-eight hour per week system with vacation of a month yearly, others which work on the sixty or seventy hour schedule with two weeks' vacation yearly. To check up results of these varying conditions, we have the state board examinations, but we have no statistics showing a comparison of the results, either for the schools in different states under different laws or for schools in one state controlled by the same law. Again, the state board examination tells only half the story. Into what fields do the graduates from these various schools enter? Is the woman with a superior education better able to meet the demands in these fields for which the present hospital training does not prepare one? We have no statistics to show. Again, what relation have housing, recreation, hours on duty, length of vacations, to the amount of sickness, to failures, to the ideals and mental outlook of the nurse and to her general social efficiency? Again, what is the relation between all these conditions and the supply and demand? We have no statistics to show.

Inspection, recording, and comparison of results in tabulated or graphic form must furnish these facts. We must remember that statistics do not improve, like wine, with age, and that they are useful only to guide and direct our actions.

It has been said that three-fourths of the knowledge a man brings back from his travels is what he already possessed at the outset. The same may be said of the inspector. The success of the inspection largely depends upon the amount of time and thought previously devoted to the preparation and organization of questions and the information desired. It is encouraging to note that a number of states have prepared such forms. These, however, while excellent, are not uniform, and so would make comparisons on a national basis difficult. It has been suggested that a set of cards be prepared which would serve as the "case record" of the individual training school for a period of five years; that the schools be graded according to these records and the records filed accordingly; that the records be uniform for all training schools so that a national program may be based upon a study of every hospital rather than upon the study of a few cases. The application of the statistical method is to enlarge the experience of the individual by giving him a bird's-eye view of the whole problem.

It is inspiring to recall that in adopting this method we are following in the footsteps of our founder, Florence Nightingale, that "passionate statistician." It was through this method of attack alone that she was able to bring about those radical reforms in social conditions, in sanitation, in nursing in military and civic hospitals which have made her name famous and revered for all time. Perhaps it is even more pertinent and stimulating to note that today this method forms the basis of action in securing legislation in the great preventive health movement, a movement with which we are so intimately associated.

Inspection, then, of training schools, to be constructive and scientific, demands:

1. A qualified inspector.
2. A broad democratic aim.
3. Community cooperation.
4. Observation and recording conditions—the "case record."
5. Discussion, suggestions, and a fresh start.
6. "Follow-up" work.
7. Analysis, presentation, and comparison of data collected from all sources upon which to base conclusions.
8. Experimentation—conclusions in action with systematic checking up of results.

The Annual Convention of the Three National Nursing Organizations

The annual convention of the three national nursing organizations will be held at the Bellevue-Stratford Hotel, Philadelphia, from Thursday, April 26, to Wednesday, May 2, inclusive. This will be the twenty-third anniversary of the National League of Nursing Education, the twentieth of the American Nurses' Association, and the fifth of the National Organization for Public Health Nursing.

The program promises to be rich and varied and to present some unusual features. The program committee, composed of members of the three organizations, has provided an unusual number of joint sessions, at which the subject dealt with will be presented from the standpoint of each organization. The education of the nurse, the public demands on the nurse and the way in which these demands are to be met, the rapidly developing health centers, the relation of records to vital statistics, the status and training of attendants—all these are questions which will be considered and in which nurses in every field are mutually concerned. The discussions of the papers presented will take place at the round tables, to follow the general meeting immediately, except in two instances, in which the program will be limited to two papers. This arrangement will permit of a comparison of the two methods.

At the opening session on Thursday evening the convention will be addressed by Mr. Thomas Mott Osborne, honorary president of the National Committee on Prisons. The plan of the committee on social hygiene of the prisons, a subcommittee of the national committee, for the medical examination, treatment, and disposition of the prisoners—a plan which is already being put into effect in Sing Sing Prison—is one in which every member of the nursing profession will be interested, and concerning which she should be informed.

Health insurance is the subject to be presented at the second evening session. Health insurance laws are now being considered by the legislators of several states. The subject is one in which nurses are deeply concerned, and a committee was appointed by the joint boards of directors in January to study the question carefully and to report at this convention.

Another evening session will be devoted to the Red Cross Service. The recent rapid development of this service will make this meeting one of deepest interest.

An advance program is to be issued and can be obtained from the three secretaries: Miss Katharine DeWitt, 211 Westminster Road, Rochester, N. Y.; Miss Effie Taylor, Johns Hopkins Hospital, Baltimore, Md.; and Miss Ella Phillips Crandall, 600 Lexington Ave., New York.

Detailed information concerning the hotel accommodations and transportation will be found in the March and April numbers of the *American Journal of Nursing*.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

The Problems of the Dietitian and Her Relation to the Hospital and the Training School

BY A. T. ATWOOD, B. S., Dietitian Johns Hopkins Hospital, Baltimore.

The problems of the relation of the dietitian to the hospital and the training school are of comparatively recent date. Ten or fifteen years ago only a few hospitals in the country had a specially trained woman in charge of the diets. To be sure, every hospital had a housekeeper or someone who was responsible for producing three meals a day, but she was a woman qualified for the position only by experience and what natural attributes she might possess. Very often she had previously been a satisfactory cook or a capable servant in some other capacity, with a sufficiently forceful personality to dominate others with whom she worked. So long as the hospital dealt with this type of woman, the problems of her relation and value to the institution were comparatively simple, but there came a time when the superintendents of training schools realized the necessity of having in these positions women of sufficient intelligence and education to teach their nurses as well as to serve the hospital more efficiently in the supervision of food preparation.

As the trained dietitian has come into existence, and as year by year the standard of educational preparation for such work has been raised, the question of what her sphere of usefulness ought to be has become more complex. It is now not the mere matter of preparing three meals a day, but (1) of preparing these meals for three or four classes of individuals in normal health, all of whose occupations and food requirements differ, due consideration of which should be made; and (2) of preparing meals for the patients of the hospital, both private and public ward, whose diets may be as varied as their number. This in the large hospitals, where the census varies from 1,000 to 1,500 people, is a heavy task, especially if experimental work in nutrition is being done, which calls for an unlimited number of special diets. Besides these things, whether she does the actual buying or not, she must have a thorough practical knowledge of raw foods and staple manufactured articles, together with their relative values from the standpoints of utility, availability, and price. In smaller hospitals she is often asked to assume the housekeeping of the entire institution, the management of all servants, and even the supervision of the laundry. Then, of very great importance is her relation to the training school as instructor of the nurses in their theoretical work in foods and nutrition and in practical cookery.

There is little doubt that in many cases the relation of the dietitian to the hospital is not in all respects what is most desirable. There is much to be said on both sides. The hospital has not called for the best development of the dietitian, nor has the dietitian, *in all cases*, prepared herself fully, from the hospital standpoint, for the work she undertakes to do. It is a perplexing question as to what the readjustment should be.

At present there are hundreds of *so-called* dietitians in various kinds of institutions in the country; but there is such a difference in the requirements of the institutions, as well as in the preparation of the women filling the positions, that the term "dietitian" does not convey a very definite meaning to the mind. We need not only more definite requirements on the part of the institution, but also a better standard of qualifications and preparation in schools training women for this work. The lack of uniform, practical, and adequate training for institutional work on the part of many domestic science schools are points realized by the dietitians themselves, and are at present objects of an organized effort on their part to formulate suggestions as to the ways in which such training can be made to prepare them better to handle the problems of an institution. Some schools of good rank have heretofore considered that a dietitian's training may be less rigid or more abbreviated than that of their graduates who will teach cookery in schools, requiring two years of training for the latter class and only one year of training for the former.

It is quite probably due to this lack of appreciation by many schools of the amount and nature of the work required of a dietitian, and to the placing of poorly prepared women in the positions, that much just criticism has been heaped on dietitians as a class. At least two years of strictly professional training, based on a high requirement of previous academic courses, is no more than adequate to fit a woman to work out her own success in this line, and it does take hard work, application, and perseverance, for she can be of very little value to the hospital when she first receives her diploma from even the best school. Considerable actual experience in the hospital must follow before she can realize the meaning of the work before her. Personally, I believe that a certain amount of her training should be received in an environment similar to the one where she will make use of it.

In this way pupil dietitian courses which are being offered by various hospitals to graduates of accredited domestic science and household arts schools are proving valuable aids. These are excellent in principle, and, when they are given under wise supervision, in surroundings of good practical working conditions, form an exceedingly desirable training for women who wish to do future hospital work.

Graduates are sometimes reluctant to give time for post-graduate training courses. These seem especially irksome to the new graduate because so many hospitals are willing to accept as workers anyone calling herself a dietitian without careful examination as to the thoroughness of her training and her general qualifications for the position. Of course, even a partially trained woman is better than one with no training, but, if we are looking for a solution of some of the difficulties which at present exist, an adequately trained woman is a fundamental requirement. Also many graduates fail to see that ultimately it will be to their advantage to serve a somewhat tedious apprenticeship as an assistant dietitian before assuming the full responsibility of the work.

It may not be amiss to mention some of the ways in which dietitians have failed to meet the requirements of the hospital. First, I believe it requires an older woman than for other fields open to domestic science graduates. As her duties must be largely of an executive nature, she should have learned by experience wise methods of controlling situations and dealing with people. The training of a dietitian gives much less opportunity for the development of executive ability than does a nurse's training. Graduates of even the best domestic science schools are usually deficient in ability to plan and manage work, and especially in ability to direct the work of others. In a nurse's training these are considered points of great importance, and from her first year in the hospital until she graduates she is constantly being called on to show some nurse who is her junior how certain things should be done, as well as to direct the work of servants upon the wards.

Probably one of the criticisms most frequently made by the hospital on the dietitian's work is her lack of housekeeping ability. She may have a great fund of knowledge on the subjects of foods and nutrition, and be quite helpless when it comes to attaining a fair standard of housekeeping cleanliness with an inexperienced maid. A dietitian must learn this for herself after graduation, which necessitates some years of experience. It would seem very desirable if domestic science schools would devise ways for incorporating into their courses more opportunity for experience of this kind.

A nurse's training also tends to develop a greater feeling of personal responsibility about her work and a more cheerful sacrifice of personal comfort where her duty demands it. This is due, of course, to the serious nature of her work. A dietitian usually has to acquire this after coming into the hospital environment. Another point which our schools giving courses in institutional management might emphasize even more than they do at present is the appreciation of promptness, neatness, and definite routine as essentials in accomplishing a large piece of work.

It is unfortunately true that a majority of the best equipped and most ambitious domestic science graduates are not willing to take up hospital work. Realizing that it does possess many desirable features, I have been interested to find out on what the objections are based. I have discussed it with many domestic science graduates, as well as with instructors and directors of schools, and the reasons given are mainly three—long hours, comparatively small salaries, and the isolated position often held by the dietitian in the hospital.

Probably the long hours on duty would seem less formidable if there were sufficient compensations in other ways. The best hospital salaries do not compare favorably with the best of those paid to women at the head of domestic science departments in schools and colleges, and when, in addition, we consider that a woman in general educational work is entirely free on Sundays, with comparatively few duties on Saturday, we must admit that hospital work does not appear wholly desirable.

Probably of the reasons given, the third has as great an effect as any on the really enthusiastic, conscientious worker. It is a discouraging situation for a woman to find herself in an environment where she realizes that she is an important factor in the working organization and yet receives comparatively little personal consideration. That we know this condition does not prevail in all hospitals does not alter the fact that this is the case in some, and in these the dietitian is largely thrown on her own resources when she is off duty. I know from personal experience that the dietitian's position in the hospital may be made a very agreeable one. That it is not always so quite possibly is more the result of thoughtlessness than through any intention of neglect. Is it not possible that some improvement in these lines also may be worth considering as a harmonizing factor in the present situation?

When the dietitian is responsible for teaching nurses, she should possess not only the qualifications already mentioned, but numerous additional ones which are equally important. I think a woman should be at least 25 years old, as otherwise she works at a disadvantage to herself and will seldom have developed the ability or the good judgment to act as a director of nurses' work. There is no doubt that the full normal course training for teachers is necessary for this position, and the course should be of such grade as to have included or required as prerequisites thorough work in physics, chemistry, and physiology. In addition to this, she can be of vastly more use if her academic work has been such as to give her a broad view of education in general lines. She may have many nurses in her classes with college degrees, and it will be to her advantage if her own education has not followed too closely the technical lines of her major subject.

She should have had sufficient previous experience to make her methods of teaching and of dealing with people actually her own. Superficial class-room experience or theories from her note-book on teaching methods are inadequate. This does not mean that her ideas or methods are more valuable than others, but only that they are probably more in proportion to her working ability. It is seldom that persons can present convincingly to others what they have not had personal experience with, and they can most efficiently put into practice what they have planned in every detail.

Teaching practical cooking to nurses differs from teaching it under other conditions. It is too important to admit of uncertain results. In ordinary school work the chief object is the training of the pupil. It is possible that even experimental work on the part of the pupil may be desirable, leaving her to learn by her catastrophes the best method to follow in the future. In the hospital we must always have successful results if the food is being prepared for patients, which is usually the case unless all the teaching is done in the class room by the laboratory method.

As to the subject-matter and methods used in teaching, much depends on the individual hospital, and especially on the length of time devoted to it in the training school curriculum. If the instruction is distributed through the course, the plan should be different from when it is all given in the preparatory term. Logically, both theoretical and practical work given in the first year should bear definitely on the work which the nurses will do in the hospital, as well as being the foundation for advanced work. That given in the later years of the course might well be that which they may use after graduation when in charge of wards, on private duty, or in district nursing work. The work given to the preparatory class should be very carefully planned to coincide as much as possible with general hospital methods and requirements.

The work room must not be regarded simply as a kitchen, but as a laboratory where diets used in the treatment of patients are prepared. Exactness and cleanliness are of more importance than under ordinary conditions. If a large amount of work is to be done, the value of promptness, neatness, and routine as time savers should be emphasized. Every utensil should have special uses and be employed for no other purposes, since this is the general custom throughout the hospital. Unvarying rou-

tine is of great importance wherever a large amount of work is to be done with many people, each contributing a share.

The theory of "development of individuality," which is stressed in the training of all teachers, is the basis of the experimental method of work which is in vogue in many public schools. Such work requires very close observation by the teacher, and, when finished, very critical discussion with the pupil in order that she may realize in what ways it could have been better. Its chief value lies in its disciplinary effect on the pupil and not in the production of accurate results.

When applied to the work of probationers, it is capable of misinterpretation and serious misuse. It is undesirable to leave them with indefinite directions on the basis that they should be allowed to work out things for themselves. The special faults resulting are that if the instructor is busy and the results are passably good, generally the work is accepted without having its imperfect features made sufficiently prominent to the pupil. In this way we have a lack of exactness in the result, frequently a loss of time and effort on the part of the pupil, and bad working habits established.

One of the most desirable qualities for the teacher to possess is the ability to make her subject interesting. To many probationers who are ignorant of household affairs the thought of work in cookery is that of a wholly disagreeable task, but if the teacher is enthusiastic about her work, has a real interest in her pupils, and has a sufficiently wide range of information with which to explain the constantly arising questions, and to make attractive apparently commonplace drudgery, she can usually succeed in getting a certain amount of response from even the least promising of her class.

I am a firm believer in the method of teaching practical work by working with the pupils, showing by actual example how the thing can be accomplished. Nothing wins so much respect for a hitherto despised task as to see that it is possible to do it quickly, neatly, with few utensils, without loss of time, and with an unsoiled apron.

Nurses' theoretical work should include, among other things, the study of the composition, uses, and cost of common food materials and manufactured products, the principles of cookery, making of menus, with proper regard for desirable combinations and variety of foods, the principles of normal nutrition, and the variations made in common diseases. Work given in the later years of training should include some study of purchasing problems, efficient and economical buying, and practice in making the best use of available materials; also economy of time and labor, and consideration in dealing with servants. One of the serious faults of a nurse from a large institution is her lack of regard for the resources of the average family of moderate means. The great abundance of supplies always at hand in the hospital and the presence of many servants tend to make her extravagant and thoughtless when she faces the problem of a private family. To help her in such conditions as these, she should have practice in meeting ordinary emergencies of cooking and housekeeping, and be taught substitutions that can be made when the customary utensils and materials are lacking. Individuality of method and the ability to think for herself should be encouraged.

Until she has thoroughly learned the meaning of her training she should follow the definite methods of routine, for it is foolish to expect good results when the worker is not perfectly familiar with the object to be attained; but when she fully understands the meaning of what she has been taught, she may bring her own individuality into the way of accomplishing it. When she leaves the institution she becomes dependent on her own resources.

In many hospitals the dietitian is under the direction of the superintendent of nurses, but, when this is not the case, very close cooperation should exist between the training school and the dietary department.

The supervisors of nurses and the dietitian should work out a very definite method of preparing such nourishments as are made on the wards, of setting trays and of serving various foods, so that the theoretical instruction of the nurses and their practical work on the wards shall coincide. It is a most discouraging situation for the dietitian to teach carefully and in detail the preparation of certain foods and to find that, as the nurses reach the wards, each is following her own inclination or is being retaught an entirely different method by her supervisor.

If the nurses have originally been taught a method based on scientific principles, which gives satisfactory results and is sufficiently economical of the nurse's time, it would seem to be reasonable cooperation on the part of the training school to continue the method on the wards. If, however, the method taught is impractical from the ward standpoint, then the dietitian should be sufficiently adaptable to hospital needs to modify her teaching to a standard that will give the best results possible in that particular case.

In a large institution, where her duties are many, the dietitian will seldom have time to attend to the serving of trays on the wards. In such cases this can best be done by supervising nurses. I can see no great advantage gained by the dietitian coming into any kind of personal relations with the patients. It only serves to make complications on the ward and creates dissatisfaction in both departments.

Physicians in some diseases are using dietetic means as almost the sole treatment given to a patient. In these cases the diet is as carefully prescribed and the results as carefully recorded as in the case of medicines. It would seem to be the logical work of the dietitian to see that the food for these cases is given the same attention which a pharmacist gives to his prescriptions, leaving the administration of both to the nursing department. There are doubtless times when an occasional discussion between the doctor and dietitian might be desirable, such as special combinations of materials in a recipe to produce certain food values, or other matters of a general interest, but routine discussion of cases only serves to create confusion of responsibility for the patients.

It has been a much-discussed question whether the dietitian should be a nurse. Many feel that if this were the case, most of the present difficulties would be overcome. It is only reasonable to suppose that a graduate nurse who has also had a full course in domestic science is much better equipped than one with half the training, but this means a minimum of five or six years of strictly professional training, which is more than most women will give. The temptation is to abbreviate one of the courses unduly on the plea that something already taken may be regarded as an equivalent. On the whole, a woman so qualified will be a rare exception. In general, the best practical results will probably be accomplished by more complete equipment of the domestic science graduate who elects the dietitian's work, and a more thorough training of pupil nurses in foods and nutrition which will result eventually in better prepared supervising nurses. These changes, with an increased appreciation and recognition of a capable dietitian, will result in solving some of the present problems and

bringing about better relations between the departments of the hospital.

The New Pure-Food Catsup: Or, When Is a Chemical Not a Chemical?

BY DR. J. A. WESENER, of The Columbus Laboratories, Chicago.

[Continued from the March issue.]

The new pure-food catsup, which is a step backward in the art of manufacturing this product, came about by the attack of the United States Department of Agriculture on the use of sodium benzoate in the preparation of foodstuffs. When this article was excluded from use in the manufacture of catsup, it was necessary to substitute other preservatives in its place, as otherwise it would be impossible to preserve this product. Sugar and tomatoes ferment readily, and the result of their combination in the presence of bacteria is like the adding of fire to gunpowder—an explosion.

The manufacturer, then, to preserve this new pure-food catsup, was obliged, first of all, to change his formula, thereby changing the flavor and character of the product on which he had spent millions of dollars in advertising and establishing a well-earned reputation. If the particular brand of catsup which the manufacturer was putting on the market was of the sour-and-spice type, it was very easy for him to preserve this catsup by the use of excess of vinegar and spices and without the use of any benzoic acid. If, on the other hand, the brand of catsup was of the sweet type—and this, by the way, is the one most generally preferred by the consumer—the addition of an excess of vinegar and spices called for an excess of sugar, in order to disguise to the taste the excess of spices and vinegar, and this method spoiled the delicate flavor of the catsup, which flavor is retained in catsup preserved with benzoic acid. For it is well known that sodium benzoate and benzoate acid have no flavor and do not in any way modify the flavor in which they are used. The present way of preserving the new pure catsup is either by the use of an excess of vinegar and spices, the product being then boiled down to a greater density than if benzoic acid is used, or by the addition of an excess of vinegar and essential oils and fluidextract of capsicum. The essential oils and fluidextract of capsicum are added last when the product has been boiled down to its proper density to avoid volatilizing the essential oils.

Within the past three or four years I have made extensive experiments in the preservation of catsup without the use of sodium benzoate or benzoic acid. I have found that, if the catsup was sufficiently concentrated with an excess of spices, the product would keep well, although, as already stated, the tomato flavor was almost entirely disguised by the excess of aromatics and vinegar. I also found that the product could be better preserved by the use of the essential oils, excess of vinegar and fluidextract of capsicum, the latter being especially beneficial as a preservative. Catsup preserved in this manner is much darker in color and the product preserved by the use of the essential oils and fluidextract of capsicum usually shows quite a discoloration in the neck of the bottle. If you should find this condition in catsup brought on your table you could readily surmise the cause, and your conclusion will be well strengthened by the spicy taste of the product.

PRESERVATIVE EFFECT OF BENZOIC ACID

The preserving action of benzoic acid has long been recognized, and it has been found that this material in even very small quantities, amounting to less than 0.05 percent, is effectual in checking fermentation and even destroying many forms of bacteria. The substance is usually added to foodstuff in the form of sodium benzoate, which is more soluble in water and which is speedily decomposed by the natural acid of the tomatoes.

The medicinal dose of benzoic acid as specified by the United States Pharmacopeia is 7½ grains and that of sodium benzoate is twice this amount, or 15 grains. It may be stated in this connection that it is a tendency of the United States Pharmacopeia to give the medicinal dose near the low limit rather than the high. The United States Dispensatory gives the dose of benzoic acid as 30 grains and states that from 60 to 120 grains of sodium benzoate may be given in divided doses during the day. It will be of interest to compare the dose of essential oils, fluidextract of capsicum, and acetic acid (vinegar) with that of benzoic acid and sodium benzoate. The medicinal doses as given by the United States Pharmacopeia are as follows:

Cloves, 4 grains; coriander, nutmeg, and black pepper, each 7½ grains; allspice and caraway, 15 grains. As for the essential oils of these aromatics, the dose of oils of cloves, caraway, coriander, nutmeg, and allspice is 3 minims, or practically 3 grains, while the dose of cinnamon is less than 1 grain. The dose of the fluidextract of capsicum is also less than 1 grain. It will at once be seen that the dose of all these substances is very much less than that of either benzoic acid or sodium benzoate. The dose of dilute acetic acid containing only 6 percent by weight of acetic acid is 30 drops, or practically 30 grains. When we calculate this to the actual amount of acetic acid which is present in this diluted acetic acid, we have practically 2 grains as the dose of pure acetic acid. The books always give the precaution that this medicine should be diluted with water when prescribed, and the pure acetic acid sold by the drugstore must bear the red label of the skull and cross-bones and be marked "poison." The maximum dose of benzoic acid is given in the Pharmacopeia as nearly four times as great as that of acetic acid.

Now, as to the preserving action of acetic acid: Sternberg states that a solution of one part of glacial acetic acid to 300 destroys the cholera spirillum in one half hour. In the proportion of 0.25 percent it restrains the growth of typhoid bacillus and in 0.3 percent destroys its vitality after three hours' exposure; and, on the strength of another authority, he states that the cholera spirillum fails to grow in the presence of 0.132 percent, and is destroyed by 0.2 percent acetic acid. From the data given in this work, the antiseptic properties of acetic acid are found to be greater than those of boric acid and salicylic acid and one-third as great as benzoic acid. From the formula used by some large manufacturers of catsup, we are enabled to calculate that the amount of acetic acid added is somewhat in excess of 1 percent of the finished product. It is well recognized that there are some acid-resisting bacteria that will grow even in the presence of much acetic acid, and to preserve the catsup completely it is necessary to add other antiseptic substances. A person consuming an ounce of catsup containing this amount of acetic acid would receive practically 4.6 grains of pure acetic acid, or more than twice the medicinal dose as given in the United States Pharmacopeia, whereas, if he were using an ounce of catsup preserved with benzoic acid, he would consume only one-twelfth of this amount of benzoic acid, or practically 1/20 of the medicinal dose of this latter article. Taking the combined medicinal doses of the essential oils used in preparing catsup and necessary to complete the preservation of it, we find it necessary to use an amount of this substance only a little less

than is required of the benzoic acid, notwithstanding that the medicinal dose of these substances, as has already been shown, is less than one-half, and in the case of the oil of cinnamon and the fluidextract of capsicum hardly more than one-tenth as great as the medicinal dose of benzoic acid.

A recent bulletin of the United States Department of Agriculture, Bureau of Chemistry, Bulletin No. 119, recommended for publication by Dr. H. W. Wiley, chief, gives results of experimental work carried on by Dr. A. W. Bitting, an inspector of the Bureau of Chemistry. This bulletin states that the regular catsup used in their experiments and evidently recommended for manufacture consisted of the pulp of ripe tomatoes to which was added granulated sugar, 80 grains distilled vinegar, table salt, onions, garlic, whole cinnamon, cloves, mace and ground cayenne pepper, and that other catsups were made in a similar manner by substituting for these whole aromatics the essential oils and also the acetic acid extracts from these oils to give the same strength as with ground spices. The bulletin does not give the amounts of these various ingredients that were used, but it does state on page 27 that each manufacturer must work out the quantities that could be used in his formula and still retain the character of his goods, implying that in the administration of the pure food law no exception will be taken to any quantity of these ingredients which the manufacturer might see fit to put in. It is stated, further, on page 26, that with the increase in vinegar it is necessary to add sugar and slightly more spices to overcome the pungency of the acid and thus insure good flavor, and we might add "good preserving." The authorities here do not appear to see any connection between that paragraph in the pure food law which states that an article shall be deemed to be adulterated "if it be mixed, colored, powdered, coated or stained in a manner whereby damage or inferiority is concealed," or to the Food Inspection Decision No. 66, which refers to the use of sugar in canned foods. In this bulletin attention is called to the clause just quoted, using it as a basis for restricting the use of the sugar to sweeten canned corn and other vegetables. It is there stated that it is held "that the addition of sugar to a substance not naturally sweet, converting it into a substance which might seem naturally sweet, is justified if the label plainly indicates that this sweetening material is added."

[To be continued.]

Abernethy's Cure for Gout

"Pray, Mr. Abernethy, what is a cure for gout?" was the question of an indolent and luxurious citizen.

"Live upon sixpence a day, and earn it," was the cogent reply.

John Abernethy, second son of a Scotch-Irish family, born April 3, 1764, a physician of rare discernment, a surgeon of great skill, a lecturer, and teacher of dramatic magnetism, never said a better thing in his life. It is particularly apt in this country where the sin of overeating is far more common than the sin of overdrinking. Gluttony, always a fault, is all the more glaring in a land where a plentiful food supply permits it to be more general. The sallow, fat cheeks, the aching joints and irascible temper of the prosperous overfed are far too common. Abernethy said to one such—the Duke of York, by the way—"Cut off the supplies as the Duke of Wellington did in his campaigns, and the enemy will leave the citadel."

Abernethy was married, January 9, 1800, to a lady whom he met at the house of a patient. A brief courtship was followed by a proposal by letter giving the lady a fortnight in which to make up her mind and deprecating any "dangling." He was not as temperate with regard to work as he was to food. He did not interrupt his lectures even for his wedding, and died at the age of 67, completely worn out, a victim of his gluttony for work.

Miss Grace McCullough, dietitian of the Peter Bent Brigham Hospital, Boston, has been appointed to reorganize the dietary department of the Albany Hospital, Albany, N. Y. Her former pupil and assistant, Miss Alice H. Mitchell, will carry on the work. Extensive improvements are being made in walls, floors, and equipment.

The Nurse Anesthetist

During the recent Hopkinsville meeting of the Kentucky State Medical Association, the following report of the committee on ethics was presented to and unanimously adopted by the house of delegates:

"The *esprit de corps* of the medical profession is due to the observance of medical ethics by the profession. Medical ethics stand for etiquette and fair dealing among physicians, and the ethical physician does nothing to lower the high standard of the medical profession. . . . It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine, and physicians should expose without fear or favor, before the proper medical or legal tribunals, corrupt or dishonest conduct of members of the profession.

"Your committee, in this connection, desires to call your especial attention to a violation of these principles of ethics in the employment by surgeons of nurses and others as anesthetists who are not trained in the practice of medicine. It is urged that this is a procedure under the control of the surgeon, but we submit that neither law nor usage permits surgeons to decide who shall be permitted to practice medicine. In addition, few surgeons are qualified better than others of the profession in the administration of anesthetics. In order, therefore, to stop this evil now, your committee recommends that the medical profession of Kentucky request its members not to employ other than qualified physicians as anesthetists, except in cases of emergency. In order to make this request urgent and effective, we would suggest that the profession should not refer cases to hospitals where nurses are allowed to give anesthetics, and that hereafter no member who violates the law and ethics shall be considered in good standing in this association. . . ."

The Advantages of the English Language

In speaking of group diagnosis of unusual children, F. H. Knight says (*Albany Med. Ann.*): "All knowledge should be as nearly first hand as possible, and all that is known should be expressed in language which all interested can understand without frequent recourse to the dictionary. It will not do to speak of a recidivist afflicted with anorexia showing abnormal kinaesthetic sensations and epideixis of attention with a low hyparctic rating, especially if one should add, 'You know that no hyparctic rating per se indicates the future possibilities or probabilities of development.' It would be much better to speak of an old rounder who had lost his appetite for food and who is numb with cold and who finds it impossible to give his undivided attention to anything, etc. It adds greatly to the interest of all concerned in making a unified diagnosis of a case not only to understand his own contribution to the diagnosis, but to understand the contribution made by everyone else concerned; and, after all, the English language is a fairly good medium for the expression of human thought."

PREVENTION OF BLINDNESS
MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,
Secretary of the Illinois Society for the Prevention of Blindness;
Chairman of Committee on Social Hygiene of the
American Nurses' Association.

Please address items of news and inquiries regarding Prevention of Blindness—Maternity to the editor of this department, 30 North Michigan Boulevard, Chicago.

How Two Thousand Detroit Mothers Were Cared for in Childbirth[1]

The very rapid growth of the city of Detroit has brought with it the serious problem of providing adequate facilities along all lines for a community whose population has increased by tens of thousands a year for several years. During this period of remarkable growth, many thousands of families of workingmen have come as strangers to the city. The welfare work which has become an important part of large mercantile and manufacturing establishments, together with the workmen's compensation law, has resulted in provision for prompt assistance to injured or sick workmen. In comparatively few instances, however, has such assistance been extended to include medical attention or nursing care for the wives and families of workingmen employed in the various establishments.

With a view to determining the best means of supplying adequate care in childbirth in homes, chiefly of independent, self-respecting families of moderate means, a limited survey was undertaken to ascertain facts as to existing conditions in this particular form of disability.

More than ten thousand homes of moderate means were visited during the investigation and records were made of two thousand cases.

A registered nurse, Miss Lillian Young, who has specialized in obstetrics and who has had wide experience in the care of such patients in institutions, as private nurse, visiting nurse, and supervisor of household nurses, was secured for the field work.

The inquiry was made by a house-to-house canvass in which interviews were secured with the mothers in the great majority of instances. In some homes where the mother was absent or unable to speak English, the information was given by the father, or a half-grown child, or a neighbor acted as interpreter. No cases in which the birth had occurred outside of Detroit or in a hospital were included in the records.

In deciding on the points to be included in the inquiry, the committee consulted with representatives of the Department of Health, the Associated Charities, the Babies' Milk Fund, and the sociological department of the University of Michigan. Facts secured include the following data: nationality; occupation of husband; approximate monthly wage; number in family; boarders; roomers; ages of children; approximate age of mother; of baby; attendance at birth—doctor—midwife; other assistance at birth; general home conditions; prenatal care; preparations for birth; postnatal care—visits by doctor—time in bed; length of time nurse was employed, if any; difficulty in securing medical or nursing assistance; cost of confinement; recovery or indications of insufficient care.

[1]Report of the Committee on Maternity Survey of the Detroit Home Nursing Association.

TERRITORY INCLUDED IN THE CANVASS

Sections of the city were selected which were believed to be populated chiefly by independent, self-respecting people who were not accustomed to seeking charity, but who are living on moderate incomes. . . .

The canvass revealed the fact that many streets which are commonly supposed to be inhabited by foreign-born people have, in reality, a large proportion of American-born and English-speaking people. On many streets it was found that in the blocks nearest the street-car line, American-born or English-speaking families predominated, while on the same streets in the blocks farther from the car line, the homes were occupied by foreign-born and non-English-speaking people. The investigator, acting on instructions from the committee, did not pursue the inquiry in districts occupied wholly by foreign-born or non-English-speaking people, because of difficulties in language, and for other reasons.

OCCUPATIONS

Among the families investigated were employees of the following firms:

Ford Motor Co.	378	Aluminum Casting Co.	4
Chalmers Motor Co.	6	Cadillac Motor Co.	18
Studebaker Co.	32	Burroughs Adding Machine Co.	3
Packard Motor Car Co.	68	Michigan Lubricating Co.	5
King Motor Co.	1	City Gas Co.	1
Maxwell Motor Co.	4	Grinnell Music Co.	1
Northway Motor Co.	10	Bell Telephone Co.	1
Dodge Bros.	42	Pittsburgh Plate Glass Co.	2
Hudson Motor Co.	8	Kelsey Wheel Co.	1
Fisher Body Co.	23	Parke-Davis Co.	4
Hayes Mfg. Co.	6	Detroit Creamery Co.	2
Timken Axle Co.	8	Edison Co.	13
Saxon Motor Co.	2	Hupmobile Co.	6
Wilson Body Co.	6	Michigan Copper and Brass Works	8
Page Motor Co.	1	Central Oil Co.	1
Continental Motor Co.	2		
Solvay Process Co.	8		

Information secured on this point was not always satisfactory, because in a considerable number of cases the wife did not know the nature of her husband's employment—knew only the name of the firm for which he worked. Records as to occupation were secured as follows:

Carpenter	83	Harnessmaker	1
Stonemason	33	Stenographer	1
Contractor	21	Waiter	1
Merchant	46	Cook	1
Machinist	106	Banker	2
Engineer	18	Electrician	21
Shoemaker	1	Insurance agent	3
Printer	9	Baker	12
Painter	28	Butcher	10
Druggist	2	Milk peddler	4
Tile-setter	4	Teamster	23
Tailor	19	Diemaker	9
Boilermaker	1	Coremaker	10
Laundry worker	3	Clerk	38
Plasterer	11	Barber	15
Plumber	13	Minister	1
Steelworker	57	Tinner	7
Stovemaker	2	Blacksmith	7
City fireman	8	Motorman	22
Policeman	10	Laborer	358
Letter carrier	8	Saloonkeeper, including bartenders and beer peddlers	28
Casketmaker	2	Peddler	2
Salesman	21	Boat captain	1
School teacher	2	Cooper	1
Musician	5	Florist	2
Cigarmaker	3	Railroad worker	36
Mattressmaker	2	Maker of auto parts	110
Telegraph operator	2		

FAMILY INCOMES

In more than 100 cases the family refused any infor-

mation on this point. Reports were secured without much difficulty from the great majority.

Families having an income of $60 a month or under, 406 *Forty-eight families reported a monthly income of less than* $50.

Over $60 and less than $100 monthly, 796 families.

One hundred to $150 monthly, 642 families.

Less than a dozen families reported an income of over $150 a month.

NATIONALITY

Born in United States	970	Belgian	5
Canadians	41	Italians	63
English	26	Hungarians	67
Scotch	7	Poles	495
Irish	12	Austrians	39
Germans	152	Bohemians	10
Swedes	4	Lithuanians	18
Finns	4	Russians	65
French	3		

The remainder represented eight different countries. A considerable number of the patients who were foreign-born had been educated in the United States and spoke good English.

ATTENDANCE AT BIRTH

In 1,384 cases a doctor was employed to give medical attention at the time of birth.

In 557 cases a midwife only was employed.

In 49 cases a doctor was called in to assist the midwife.

In 11 cases neither doctor nor midwife was secured.

In one case the woman was entirely alone at the birth.

In another case the birth occurred between midnight and morning. The couple were strangers and did not know where to go to get assistance. The woman attended to the necessary duties with only her husband's assistance. A doctor was called the following day, who made but one visit.

NURSING CARE

Of the 2,000 cases, 24 employed trained graduate nurses for full-time service.

In 9 cases a graduate nurse was employed at the time of birth only.

In 408 cases a practical or household nurse was employed for full-time service.

Seventy-seven patients had some care from a visiting graduate nurse. Of the 77 patients receiving such visits, 23 held some form of insurance and were visited by a nurse from an insurance company.

Sixty-two patients were visited by a practical visiting nurse after the birth. In several instances the doctor employed a practical nurse to visit his patients and report to him on conditions, including charges for her services in his bill. In such cases the doctor usually made no visits after confinement unless the practical nurse reported some serious symptoms. An average of six visits were made by the practical nurse.

In 653 cases the husband acted as nurse at night and in 158 cases stayed home from work during the day to care for his wife.

In 175 of these cases the mother was dependent for care during the day on a child between 10 and 15 years. In several cases boys of 11 to 14 years were kept home from school to care for mother and younger children during the father's absence.

In 233 cases a neighbor came in two or three times during the day to care for mother and baby, the husband acting as nurse at night. "My neighbor helped me out. I did the same for her when her baby was born," was a common remark.

In 776 cases the patients received some care from other relatives—mother, aunt, sister, cousin, etc. In most cases this care was intermittent—for a couple of days only, or by visits during the day "to wash the baby."

TIME IN BED

In the great majority of instances the time the patient remained in bed was determined, not by her physical condition, but by the assistance she was able to secure. The presence of boarders or roomers in the house at such times very materially shortens the time the patient remains in bed; likewise the presence of young children to be cared for. Nationality also plays some part. It was found that daughters of foreign-born mothers remained in bed much longer than their mothers had been accustomed to. Foreign-born women who came to the United States at an early age and received their education in this country followed the customs of American women, rather than of their relatives or fellow countrywomen. They remained as a rule longer in bed and had a distinctly higher standard of care.

Thirty-four women stated that they remained but one day in bed.

Sixty-one were in bed two days.

One hundred and eleven were in bed three days.

Eighty-four were in bed four days.

One hundred and forty-one were in bed five days.

Four hundred and twenty were in bed from five to seven days.

One thousand one hundred and twenty-three were in bed from eight to ten days.

Twenty-six reported complications of various kinds which required them to be in bed more than two weeks. Five were removed to a hospital after the birth because of these complications.

TYPICAL CASES

Mrs. R. has seven living children. Husband is earning $12 per week. They have six roomers, the income from whom brings the total monthly income to $86 per month. Employed a midwife to be with her at the birth. Was cared for by her husband and a daughter 13 years old, who did the housework, cared for the baby and five other children in addition to caring for her mother. Patient remained in bed six days.

Mrs. N. is the mother of three children aged 5 years, 2½ years, and 5 months—a frail little woman. A neighbor came in about ten o'clock each day for a week and stayed several hours, charging $5 for her services. The fourth day after the birth Mrs. N. was out of bed and got supper for her family.

Mrs. M., American, 29 years of age, has a daughter 13 years old. A doctor was present at the birth of her last baby. A neighbor came in for three days to bathe the baby. Her husband stayed home from work and with the daughter's help cared for the mother for six days, till patient was out of bed.

Mrs. B., English, 37 years old, has six children, 13, 10, 8, 6, 3 and 6 months. Husband earns $50 per month. Had a midwife to attend her at birth who visited her for several days. Husband cared for her at night and children during the day. Was out of bed on fifth day.

Mrs. K., American, mother of four children, baby over 3 weeks old. Aunt came and stayed with her for a week. Patient was doing the family washing when the investigator called.

Mrs. H., mother of four children. Husband is a tailor. Employed a midwife, who made seven visits and charged $10. A 15-year-old girl cared for her mother. Mrs. B. helps her husband by doing the pressing, therefore could

stay in bed only four days. Husband employs five helpers in his work.

Mrs. W., American, has five children; had a doctor at time of birth. Her mother assisted and came each day for four days, staying several hours. After the fourth day the mother could not come, so patient had to get out of bed to care for the children and cook the meals. Husband is a sheet-metal worker, earns $3 a day.

Mrs. K., 37 years old, has six children; oldest daughter, 14 years of age, cared for her. Had a doctor at time of birth. A neighbor bathed the baby twice. After that the mother cared for it. Was in bed three days.

Mrs. B., 33 years old, has two children; had a midwife at birth who visited once daily for five days. Husband stayed home from work to care for wife and baby and a child aged 3 years. Was in bed three days.

Mrs. B., American, 34 years old, one child 3 years old besides the baby; unable to find a nurse at time of confinement. A friend came to care for her and brought her husband and two children with her. The children quarreled constantly, making it impossible for patient to rest in bed. Was out of bed on the fifth day.

Mrs. G., German, has five children, baby 9 days old, was doing the family washing when the investigator called.

Mrs. K., Hungarian, has four children. Husband acted as interpreter. When asked if a doctor or midwife was employed he replied, "Oh, she had her baby while I was at work—only the children here. She sat up in bed and cared for herself." Was out of bed on the second day after the birth.

COST OF MATERNITY CARE

It was not always possible to secure definite information relating to this point. Sufficient data were obtained to give a fair idea of general conditions.

In the twenty-four cases in which graduate nurses were employed for continuous nursing, the cost in the majority of cases was close to $100—in some cases above that sum. This included doctor's services, nurse's services, drugs and materials used, laundry expense, board of nurse, and wages of maid, unless some member of the family was available for the housekeeping.

In the cases in which a graduate nurse was employed only for the time of birth, some member of the family gave the after-care. The cost was approximately $30 to $35 for nurse and doctor.

In the cases in which practical or household nurses were employed, the charges varied from $10 to $20 a week. In many cases the nurse was kept only one week.

The Detroit Home Nursing Association has found it possible to supply a graduate to assist at birth, a household or practical nurse for two weeks with the supervision of the graduate, as the case requires, for a cost of about $35 for the fortnight's service. Laundry expenses are additional.

In the cases in which the doctor employs a practical nurse to visit his maternity patients, he as a rule makes but one visit. The nurse makes, on an average, six, and the common charge for the combined services is $20. The patient in such cases is left to the care of a child or a neighbor for the greater part of the time. The neighbor is often paid. Midwife's charges ranged from $7 to $10 for services at the birth and visits daily for five days or more. A few cases are recorded in which the charge was but $5. In the majority of cases the charge was $10.

Doctor's charges ranged from $10 to $30. The higher figure was not as frequently found as was the charge of $15. Twenty dollars or $25 fees to doctors were found in most cases.

FEEDING OF THE BABY

This investigation is concerned especially with the care received during, before, and after childbirth, and only incidentally with infant welfare problems, which form a separate line of study, and which are receiving careful attention by other organizations. The investigator ascertained that, of the 2,000 babies and mothers included in the records, 1,632 babies were breast-fed; 353 were bottle-fed. Of the bottle-fed babies, 135 were fed on a popular brand of condensed milk. Fifteen babies were still-born or died shortly after birth.

HOME CONDITIONS

In any such investigation the standard of nursing care must include not only the attendance during labor and after-care of doctor, nurse, midwife or family, but the general home conditions which surround the patient during the illness and before and after the birth. One question which constantly had to be weighed by the investigator was, "Was sufficient care for a good recovery for this mother a possible thing under the conditions surrounding her during her illness?" The number of children and their ages; the number of rooms occupied by the family and the general housing conditions, cleanliness, etc.; the presence of roomers or boarders in the home; the ability to secure the assistance of relatives; the family income; the general intelligence of the mother; the disposition of the husband—these and a variety of other factors were taken into consideration.

The investigation showed that, of the 2,000 families included in the records:

Four hundred and fifty-six families owned their home, or were paying for it on contract.

Sixty-six owned the two-family flat they lived in or were paying for it.

Four hundred and nine lived in rented houses of from three to ten rooms.

Four hundred and eighty-nine lived in four- to six-room flats.

Four hundred and fifty lived in houses with one or two other families, usually a story-and-a-half cottage divided.

Twenty-nine lived in a house with three other families.

Thirty-five lived in defective homes which were not fit for a baby to be born in.

Thirty-two families owned the houses they lived in, but had two other families living in the house.

PREPARATIONS FOR BIRTH

There are simple requirements which experience has taught are a necessity for the safety and general welfare of mother and child. These include, among other things, a sufficient supply of towels and sheets to provide ordinary cleanliness; a change of garments for mother after the birth; basins for doctor's hands and for solutions; some simple disinfectant, an antiseptic for the baby's eyes, a small supply of absorbent cotton, gauze, cheesecloth, clean old linen, etc., besides ordinary clothing for the baby.

In 508 cases, or about one-fourth of the number included in the canvass, these simple requirements seem to have been appreciated by the mothers, and good preparation was made.

In 714 other cases some attempt at preparation seemed to have been made, but the old story, "Didn't expect to be sick so soon," indicated that many of these depended

on eleventh-hour preparation or on borrowing from neighbors in their hour of need.

In 778 cases there had been no real preparation except certain garments for the baby, and in a considerable number of cases even these were not in readiness.

Prenatal care and treatment of the mothers, included in the records, was conspicuous by its neglect in most cases. Of the 1,384 cases employing a doctor, 394 had not engaged a doctor previous to confinement and therefore had no medical supervision. Only 668 of the 2,000 patients stated that their urine had been examined before confinement. It will thus be seen that in less than half of the cases in which a doctor was employed was this most simple and necessary measure in prenatal care taken.

It is probable that among the poorer families who apply at public clinics or dispensaries for treatment, a better record than this might be found. The financial circumstances of the majority of the families included in the canvass prevent them from securing dispensary treatment, yet are not sufficient to leave much margin for medical care.

CARE GIVEN BY THE HUSBAND

In a large number of cases the husband played an important part in the care received. As previously stated, in 653 cases, or about one-third of the whole number, he gave the only care received by mother and baby at night.

In 158 cases he stayed home from work during the day to do the nursing and keep the household machinery running. In most of these cases he stayed home only from one to four days, the mother after that time being left to care for the baby and wait on herself, with or without such help as a child could give her. In 31 cases he was at home from work one week, and in four cases two weeks.

In the majority of the cases in which the father stayed at home from work, a midwife had been employed, who came once a day. The care which the husband gave in such cases consisted largely in looking after the small children of the home, getting meals, and occasionally attending to the most pressing wants of the mother. In most of these cases the mother was expected to be out of bed on the second or third day after the birth and ready to resume her usual duties in the home. The husband expected his meals to be ready for him as usual when he came from work.

The following illustrations are typical of conditions in hundreds of homes. Mrs. M. has a child 2½ years old besides the new-born baby. Her husband is a machinist earning $100 a month. He was home doing the work when the investigator called. The midwife came daily and bathed the baby.

Mrs. S. has two children aged 4 and 2 years, besides the baby. They own their home, a five-room cottage. The husband earns $20 a week. He stayed home from work a week to care for his wife. A visiting nurse made eight visits and was paid $4.

Mrs. D. has two small children besides the baby. Husband earns $80 a month. They own their home, a six-room cottage. Her husband stayed home from work two weeks. No other nursing help of any kind employed.

Mrs. K. has four children besides the baby. Her husband earns $5 a day in a motor-car factory. They own their six-room home. The midwife paid eight visits, for which she was paid $10. Apart from the visits of the midwife, the mother was left alone to care for the new-born baby and the other children while her husband was away.

Mrs. G. has four children besides the baby, the oldest 10 years. Husband earns $80 a month. They own their home. The husband stayed home from work four days. Patient stayed in bed while he was home, after that took charge of home and family. In this case the man lost in wages in four days sufficient to pay a household nurse for a week who would have cared for the home and given the patient a fair chance to rest in bed and recuperate.

Mrs. Y. has three children besides the baby, the oldest 5 years old. They live in a five-room flat. Husband earns $2.75 a day. He stayed home from work two days. The patient was out of bed and in charge of children and home on the third day.

Mrs. T. has two children besides the baby, oldest 5. Husband, a carpenter, earns $90 a month. Her children cried so continuously while she was in bed that she got up on the fourth day. A neighbor came in occasionally, but no one was in charge of the home while she was in bed and the husband at work.

Mrs. B. has four children besides the baby, oldest 9. They own their home, a six-room cottage. Husband earns $17 a week; works in an auto parts factory. He stayed home from work eight days to care for home and children.

CARE BY OTHER RELATIVES

Figures previously presented show that in 776 cases, or considerably more than one-third, the main dependence for care was on relatives—a mother, sister, aunt, cousin, etc. Very frequently this care was paid for. A husband's mother was paid $10 in one case for coming in for several hours each day for ten days. A brother's wife in other cases was paid varying sums for the same kind of service. The important function of "bathing the baby" seems to have been considered the chief reason for most of these daily visits by relatives. In a large number of these cases of nursing by relatives, the visits were only made for three or four days, after which time the mother herself attended to the needs of the baby.

"Did not know where to get a nurse" was the reason given by a large number of mothers when questioned as to why they had no one to take care of them while their husbands were away.

STANDARDS IN HOME CARE

Any statement as to good or bad, sufficient or defective, home care in childbirth, presuppose a standard of some kind.

The minimum of decent care that should be striven for might be defined as follows:

1. Prenatal Service: Securing the ordinary precautionary examinations to guard against the dangers that always exist in a certain percentage of cases. Instruction as to matters of health that will bring about the best physical conditions at the time of labor. There should also be, when necessary, instruction as to the proper preparations for the care and clothing of the expected baby. Also, when necessary, the securing of working and living conditions for the mother during pregnancy, that will make it possible for her to reach the time of birth in good condition.

2. Service at the Birth: The making sure of good and responsible medical care and the service of a skilled maternity nurse at the time of birth.

3. After-Care: After the birth there should be secured careful watching, through visits by a competent

maternity nurse working under the doctor, so that any unfavorable symptoms may be known and reported at the earliest possible moment. In addition to this, there should be secured such household services as will make it possible for the patient to remain at rest in bed with a tranquil mind, until her physical condition is such that she can resume her regular family duties in good condition and without danger of permanent physical disability.

While this seems to be the minimum of decent care that every self-respecting community should strive to make attainable in all ordinary cases of pregnancy, childbirth and after-care, the methods of furnishing this necessary maternity care and service cannot be cast into a hard-and-fast mold, but must be made adaptable to the varying circumstances of individual cases.

The solution lies, therefore, in the inauguration of a system of service that shall be sufficiently flexible in its methods to be able to meet the needs of each individual family after looking into that family's needs and circumstances. Where family conditions are reasonably good, the attempt, too frequently made, of fitting the family to the service should be avoided, and service should be given in such a way as to conform as closely as possible to the family habits, tastes and wishes, in such a way as to save it from every unnecessary expense and difficulty.

The investigation has shown how very far our community is from having any proper care of its women in childbirth.

Of the 2,000 cases investigated:

Sixty-six percent were without the most elementary prenatal precautions as to examinations of urine, etc.

Fifty percent were without any medical advice during pregnancy, and prenatal nursing was practically unknown (excepting if any) the small percentage of cases covered by the nursing associations.

Only about 5 percent of the 2,000 cases had any contact whatever with trained nursing, whether before, during or after childbirth.

Forty-two percent of the members went through childbirth under conditions that practically forced them to resume their ordinary occupations before they could possibly be in a fit condition to do so. The inevitable result of this neglect is much subsequent disability and suffering and much unnecessary burden later thrown on our hospitals and other institutions for the suffering and dependent.

The investigation has also shown that this defective care is not due to poverty, for it exists in many families who are fairly well-to-do. It is due primarily to the lack in the past of any organized service which can give such care and can promote and diffuse the education showing the need of such care.

It will be possible to make a substantial change in this situation only if the community is willing to inaugurate and make available a proper maternity service available to the ordinary family at a cost within its means. After providing this, it will also be necessary to further the various educational processes that will be necessary to extend its use.

Such a system, once introduced and brought into use, not at first primarily among the down-and-out part of the population, but among the most intelligent and progressive of all races, carries with it its own most valuable processes of education and extends itself through the community on its own merits.

Experience shows that acceptance of poor service is a matter of habit and not a matter of preference.

The improvement and extension of a proper maternity service among the self-supporting families of the city would not take a large amount of capital, and, like our loan and building associations, it needs ordinary business treatment more than philanthropic and charitable management. It would, moreover, save much business loss due to holding men and women away from their regular occupations to meet family emergencies. It would prevent much disability and suffering and would strengthen and conserve that which is most valuable in the community. Once established in its work, it could be used by fraternal associations and benefit insurance agencies, and also serve the charitable in meeting the needs of the dependent, but it should not itself be made a charity, if it is to serve the public at large.

During the last three years the Detroit Home Nursing Association has been conducting an experiment on a limited scale that shows that work of this kind is entirely practicable, and that, conducted on a sufficiently large scale, it can if necessary be made self-supporting, so far as concerns the service of a large part of the population of the city. At the same time, it is evident that a moderate-sized endowment and a suitable building for nursing headquarters would make possible a higher standard of service and greater general usefulness.

It is customary for many of our American cities to subscribe great sums in order to have good libraries, good musical entertainments, or suitable hotel accommodations for strangers. There is far greater reason why more moderate amounts should be used to make available to all on a basis of civic equality a proper means of care for our mothers and for the children who are born into our midst.

The Detroit Home Nursing Association is willing either to undertake this work or to assist in its being undertaken by some larger organization. Our only plea is that the mothers of Detroit deserve better service in their time of trial than is now being given them, and that no hurry of prosperity can justify us in leaving things as they are.

IMPROVEMENT BY INSTRUCTION

Since much of responsibility in the care of the sick falls on relatives, two other plans which seem to offer possibilities of improved care for the sick in general are courses of instruction for women given in public schools, usually between the hours of 4 and 5 or 5:30 or 7 and 8 p. m., to which all women who wish are admitted without charge. In these classes a trained nurse teaches, by demonstration, proper methods of bed-making, bathing for invalids, bandaging, feeding the sick, how to give general care and attention which every invalid who is confined to bed should have.

The inauguration of instruction for older girls in the last year in public schools in such methods of proper care for the sick is the foundation for improved conditions in regard to the general care of the sick in homes. This instruction should not be in the form of haphazard talks, but should be as carefully planned and as carefully and systematically taught as any part of the school course. It is a part of the preparation for life which should be considered an essential in education. So long as the world lasts, babies will be born, mothers will need proper nursing, and aged invalids will need to be cared for in the home. Few women escape these responsibilities. Instruction in how to meet the general needs of the sick should be a part of the regular education of every woman.

INDUSTRIAL WELFARE

HOSPITAL WORK AND X-RAY RESEARCH

* * *

Eastman Kodak Company, Rochester, N. Y., Has Found That Its Own Welfare Activities Are Greatly Aided by the X-Ray

A concern that can carry on a welfare work in connection with some of its ordinary operations, and by means of this welfare work get a line on the quality of certain of its products, is indeed fortunate. The Eastman Kodak Company is thus favored in regard to its x-ray materials, and for that reason has had ample opportunity to try out its films and plates under actual working conditions and bring the product up to its present high-quality basis. The company maintains a large research laboratory, in the physics department of which numerous scientific investigations are continually being made with x-ray apparatus. A special room is utilized for the purpose. Although the equipment has been provided primarily for research work, it is adaptable for radiography of such emergency cases as occur in the various plants of the company.

Fig. 1. X-ray room, Eastman Kodak Company.

This x-ray department has become a very important and practically indispensable adjunct of the company's medical department. In fact, Dr. G. L. Howe, physician in charge, declares that equipment for taking x-ray pictures of fractured bones could be used advantageously in the medical department of every large industrial concern. For one thing, x-ray pictures remove the guesswork from all examinations. If a bone is broken the picture shows exactly where and in what way the fracture took place, and, in like manner, if the bone is not broken, it apprises one of that fact also, and thereby saves a great amount of unnecessary treatment. The physician can accordingly treat the patient with greater accuracy and thus shorten the period of disability.

Besides providing means for determining the exact location of bone fractures, x-ray apparatus is of great benefit in an industrial establishment for finding foreign bodies accidentally imbedded in the workman's flesh and for taking exposures of teeth thought to be infected at the roots. Moreover, where liability laws are in force, x-ray records in cases of injury assist in determining the proper periods of disability and thus prevent malingering.

Most of the exposures made in the research laboratory of the Eastman Kodak Company are of fractured fingers and toes. Fractured ankles, elbows, and wrists are also examined. In the winter, employees are occasionally injured by slipping on icy walks and pavements, going to and from their work; x-ray photographs are of great assistance in treating these injuries. Frequent use is, of course, made of the x-ray apparatus in locating foreign bodies and examining fractured ribs, collar-bones, etc.

EASTMAN KODAK COMPANY,
MEDICAL DEPARTMENT

NAME Wilhelmina Van Valsmark
PLANT Kodak Park
REFERRED TO Dr. Hodgson
ADDRESS Bldg 3, K.P.
FOR Radiograph of left wrist

G. L. Howe, M. D.
per ST

DATE 11/21/16

Fig. 2. Card from company's physician, which identifies patient and gives brief directions for making x-ray exposure.

Radiograph No. 760
Date 1/16/'17
Name John Smith, K.P.
Case Right index finger
Tube:—M. A. 20 SPK 4" Dist. 18"
Subject:—Heavy. Med. Slight. ✓
Exposure in Sec. 1½" : 2 M. A. S. 60
Development Regular
Result O.K.
Diagnosis No fracture.
Remarks

K P 5859

Fig. 3. Card filled out by operator, which gives information regarding x-ray exposure and injury.

In Figs. 2 and 3 are shown forms used for facilitating the filing of information on x-ray work. Fig. 2 illustrates a card from the company physician, which identifies the patient and gives the x-ray operator precise directions as to what to photograph. Fig. 3 shows a card made out by the operator, on which he writes information pertaining to the exposure and the injury as outlined. The operator keeps both of these cards on file. Most of the exposures are taken on standard Eastman x-ray film, which is particularly advantageous, since it is not easily breakable and is more suitable for storing purposes than plates. The films are stored in safety envelopes, which are of non-inflammable paper. Each film is given a number corresponding to the radiograph number written on the operator's card. Thus both cards and films can be filed in such a way that they are easily accessible, and information on any case can be supplied at a moment's notice.

X-ray equipment in an industrial plant is particularly advantageous because exposures can be taken a few minutes after the accident occurs. For instance, one of the Eastman employees at the Kodak Park plant of the company caught his foot between one of the floors and an elevator. From a superficial examination it appeared as if the entire foot were smashed. The man was immediately taken to the x-ray room and an exposure made within fifteen minutes after the mishap. Contrary to expectations of the attendants, only one of the phalanges was fractured. Of course, with a photographic record to guide him, the physician was enabled to treat the foot with greater facility than otherwise would have been the case.

The x-ray equipment includes a 2-kw. Snook-Roentgen transformer, a Coolidge tube, a Snook improved hydrogen tube, older types of regulator tubes, and a Holding serial timer. As already noted, this apparatus was installed primarily for carrying on scientific investigations; but it has proved its undoubted availability for hospital work and has become so useful to the company's medical department that without it the emergency hospital equipment would now be considered very incomplete.

NATIONAL COMMITTEE ON MENTAL HYGIENE

Ninth Annual Meeting Held in New York—Program of Addresses

The ninth annual meeting of the National Committee for Mental Hygiene, Inc., was held February 7 at the Hotel Baltimore.

Mr. Otto T. Bannard, treasurer, announced that gifts amounting to more than $30,000 for general expenses had been contributed during the past year by four donors, one of whom pledged $100,000 toward an endowment fund that is being raised. The Rockefeller Foundation contributed $34,000 for special purposes, such as surveys of conditions among the insane and feeble-minded.

Short addresses were given by Dr. Walter E. Fernald, on "Supervision of the Feeble-minded in the Community"; Dr. William A. White, "Influence of Mental Hygiene on Methods of Dealing With Crime and Criminals"; Dr. William L. Russell, "Some of the Indirect Results Which May Be Expected to Follow Our Surveys of the Care and Treatment of Mental Diseases"; Professor William H. Burnham, "The Role of Mental Hygiene in Education"; Dr. E. E. Southard, "The Community as a Unit for Mental Hygiene Work"; Dr. Henry R. Stedman, "The Teaching of Mental Hygiene in Medical Schools."

Dr. Thomas W. Salmon, medical director, Dr. Frankwood E. Williams, associate medical director, and Mr. Clifford W. Beers, secretary of the committee, reported on the work of the past year. Surveys have been completed in the states of California, Colorado, Connecticut, Georgia, Louisiana, Pennsylvania, South Carolina, Tennessee, Texas, and Wisconsin, and are now in progress in the cities of Chicago and New York. State Societies for mental hygiene are now organized in sixteen states, while steps have been taken towards the organization of societies in several other states. During the coming year emphasis will be laid upon the educational work of the committee. A feature of this work will be the publication of a quarterly journal, "Mental Hygiene," the first number of which was issued during the past month.

The following officers for the ensuing year were elected: Dr. Lewellys F. Barker, president; vice-presidents, Prof. Charles W. Eliot and Dr. William H. Welch; treasurer, Mr. Otto T. Bannard; medical director, Dr. Thomas W. Salmon; associate medical director, Dr. Frankwood E. Williams; secretary, Dr. Clifford W. Beers; executive committee, Dr. August Hoch, chairman; Dr. George Blumer, Prof. Stephen P. Duggan, Dr. William Mabon, Dr. William L. Russell, Dr. Lewellys F. Barker, Dr. Walter E. Fernald, and Mr. Matthew C. Fleming; finance committee, Prof. Russell H. Chittenden, chairman; Mr. Otto T. Bannard, Mr. William J. Hoggson, Dr. William B. Coley.

CHINESE MEDICINE AND THE EDUCATED CHINESE

A Dying Chinese Scholar Prefers Native Incantations to Western Medicine

While admitting that Western surgery is far beyond the range of the native surgeons, the Chinese have not an equally high opinion of our medicinal treatment—except in those diseases for which it is known that we have specific remedies—and when ill generally prefer to go to the native doctor. This attitude is taken not only by the lower classes, unacquainted with the learning and civilization of the West, but also by those who have received a foreign education and some of whom have lived abroad.

No doubt this preference for what is peculiarly their own is partly due to national prejudices. . . . About twenty years ago the Chinese Minister to London was a remarkable scholar named Lo Fung-luh. Educated in the West, he had acquired an almost encyclopedic knowledge of Western, and especially of English, literature. He was a fine Shakespeare scholar and was as familiar with Chaucer as with Herbert Spencer and John Stuart Mill. It was he who composed for his patron, Li Hung Chang, the remarkable series of speeches which astonished the British public during that statesman's visit to England by their liberal and lofty philosophy. During the last illness of Lo Fung-luh an English friend came to see him. At the time of the visit "he was lying on a low couch, and he pointed to a little wizened Chinese who was crouching beside him on the ground over a smoking brazier. For about five minutes the Chinese medicine man continued to chant in a shrill native voice, while from time to time taking up a pinch of ashes from the brazier and sprinkling them over different parts of Lo Fung-luh's body with strange passes and incantations. He thereupon kowtowed three times and retired. 'I thought, my dear friend,' Lo Fung-luh then said to me, 'it might interest you to see how a Chinese, steeped in your Western literature, saturated with your Western science and philosophy, dies—a Chinese.' "—China Medical Journal.

A new home for the Chesapeake & Ohio Hospital at Clifton Forge, Va., with accommodations for 85 patients will be opened about March 1. Miss E. W. Bauer, at present superintendent of the Chesapeake & Ohio Hospital at Huntington, W. Va., will take charge of the Clifton Forge institution when the new building is ready.

The best hospital is the one that keeps the largest number of people out. It should be a preventive rather than a curative institution. People should be encouraged to visit a hospital. . . . Hospitals must broaden their fields and instruct in the principles of health the children in the schools, the parents in the home, the father in his factory and the patients in the hospital.—Haven Emerson.

INSTITUTION LIBRARIES

Conducted by E. KATHLEEN JONES.
Librarian McLean Hospital, Waverly, Mass.; member Institutional Libraries Committee, American Library Association.

Please address items of news and inquiries regarding Institution Libraries to the editor of this department, McLean Hospital, Waverly, Mass.

Nebraska State Institution Libraries During 1916[1]

BY NELLIE WILLIAMS, Librarian for State Institutions.

The work of the institution libraries continues to be an interesting activity of the library commission, and its progress shows a real need of libraries for the benefit of this shut-in citizenship. Rather than theorize as to the part books play in the lives of these people, we will confine ourselves to a few statistics, and then give the word of some of our patients as to what the libraries mean to them.

There are three of the thirteen institution libraries from which we have been unable to obtain reports of circulation, though we know there is reading done in all of them, and two others cover only seven months each, but from those remaining our circulation for the past year is 45,457. This is for books alone, no record of periodical circulation being kept except at the penitentiary.

For obvious reasons, the circulation at the penitentiary far exceeds that of any other place, 15,107 books and 9,257 magazines being exchanged last year. Considering conditions, it seems to us not an uncreditable showing that the three insane hospitals report a combined circulation of 12,428. The boys at Kearney read 5,168 books last year, the children at the Orthopedic Hospital, 4,374, and our soldier friends at Burkett, 2,088.

To give the more significance to these figures, it seems but fair to say that, of the 4,700 inmates in all the institutions, but 1,800 are able to make any use of the libraries. In some, according to statistics from the superintendents, the proportion able to use the library is as low as 15 percent or 20 percent. In others it reaches 80 percent or 90 percent.

Bearing in mind the abnormal mental and physical conditions in several places and the fact that institution life is a busy one for the able-bodied, these figures stand for more than the mere numbers signify.

Though the reports of superintendents show the percent of high school graduates very small, with a great majority of the adult inmates below the eighth grade, it is gratifying to note the type of books which they enjoy. Nor has our standard of selection in any case been lowered on account of the educational deficiencies of our patrons.

Our aim is to consider carefully the nature of the foundation upon which we are building, and in each book added there is a hope that the choice will be justified by its use among the people. From the weighty problem of trying to prove the abiding influence of good literature in the face of possible conflicts, to the question of the remedial value of books upon those mentally ill, there is a conscientious desire to adapt the books to the people in every instance. . . .

The question of housing the institution libraries is an important one. Because of crowded conditions, it is not always possible to secure the most desirable quarters, but the fact that the best available locations have been given us proves the interest of the superintendents. In some cases the library has been given the most beautiful room in the institution. Where it is not so satisfactorily placed, we are simply sharing the disadvantage with other departments.

Plans for improved library quarters are being considered in some places. In others our hope has already been realized. At the Girls' Industrial School, the library is now placed permanently in the auditorium of the new building. At the Boys' Industrial School, the library has been redecorated and greatly beautified by new bookcases made by the boys. The library at the School for the Deaf has been moved to a cosy corner space. They also have new bookcases which were made in their carpenter shop. At the Lincoln State Hospital, a reading room in the amusement hall has been opened, new shelving has been built, and for two hours daily the patients have access to the books and periodicals. This change in location has come about because the superintendent, Dr. B. F. Williams, regards the book as a curative agent, and to that end he has emphasized the importance of its use. At the Home for the Feeble-Minded and at the Tuberculous Hospital we have just moved into roomy, sunny quarters in their new buildings. At the School for the Deaf, the choicest of locations is provided for the very little children.

The time which the libraries are open for the exchange of books varies, according to local conditions, from one hour a week, two hours a day, to any hour of every day. In six instances there are reading rooms in connection with the libraries. In two others there are rooms elsewhere in which people may gather to read.

Even with the cooperation of the superintendent, with our books upon the shelves and the reader ever with us, the problem of an effective library is not solved. The books and the people must be brought together, and that with unusual delicacy of touch. So we face the question of service along with all other departments of the institutions. . . .

Because the nurse in the hospital is the person naturally in position to bring the book to the patient, a series of talks on books and reading was given last winter to the nurses at the Lincoln State Hospital. These included one on the use of the library, one on how to get patients to read, one on out-door books, one on popular books of non-fiction, and one on poetry. They were developed from a syllabus prepared by Miss Edith Kathleen Jones, librarian of McLean Hospital, Waverly, Mass., and covered a period of about three months. We feel that it was at least worth while to come into personal touch with the nurses on whom so much of the hospital library work must necessarily devolve. Moreover, we were rewarded by seeing some definite results as an outcome of this work. In abbreviated form parts of these talks were also given to the nurses at the Norfolk Hospital for the Insane.

As another means of increasing the interest in the hospital libraries, we tried an experiment of reading aloud to the patients in the Lincoln Hospital for the Insane. It proved to be a very popular diversion for both men and women, and invitations to read on various wards were numerous. This was continued one afternoon a week all winter, and became an entering wedge in the development

[1]This report is extracted and abbreviated from the eighth biennial report of the Nebraska Public Library Commission.

of the work. Not only did some of the nurses begin to read on the wards, but our librarian now spends a part of library hours each day reading to the patients gathered in the library.

It is a mistaken idea on the part of many people that the insane are unable to read or are too uninterested to care for books, but we think we can disabuse the minds of such by giving the patients' own word on the matter. The opinion, too, is rife that they wish only the determinedly cheerful books, those which merely entertain, but one of our nurses in an eastern hospital tells of an insane patient who calls for the "big brave books, with problems of life to be fought."

As proof that our patients are reading and are appreciative of the hospital libraries, we wish them to speak by means of the following letters which were collected recently from the three insane hospitals. These few are selected from many more and are in the exact wording of the patients who wrote them.

"I must write you as I have been so much interested in the book 'Pollyanna.' It was a great help to me because it makes me remember many things which I have to be glad about, even if I am locked up. I can be glad I am not in as bad condition as many about me. I am glad for my clean dresses and for the nurses and patient friends who are so kind to me. I am glad for the squirrels and birds that play among the trees."

"Being a lover of good books, I have certainly appreciated the books which the nurses distribute from time to time throughout the different wards. When one can sit here in the State Hospital and read such books as 'The Efficient Life,' Alice and Phoebe Cary's poems, and so on, it gives the place a sort of homey halo after all."

"There are several branches of the Nebraska Library, and one of the most practical in its selection and use is the state hospital library. It is composed of current literature and many volumes from some of our best authors, extra good works. Library day for the men comes three times a week and is looked forward to with much anticipation by many on our ward. It would be regretted if we did not have a chance to make these regular trips to the library."

"Having taken pleasure in reading many books in the library here at Ingleside, I am very glad to mention my likes in regard to it. I like the books on nature most. 'In God's Out-Doors,' 'The Alps,' 'The Spell of the Rockies,' and others I might mention. Many of the novels are so amusing that they are a great help in passing the time pleasantly. Many of the books point a moral, such as 'Up from Slavery' by Booker T. Washington, which shows what a man can do if he has ambition. Books may do great good. 'May blessings be on the head of Cadmus the Phoenician or whoever it was that invented books.' "

"In behalf of several inmates on 24, allow me to express our appreciation for the privilege of reading the Ingleside state library books, either historical, Biblical, or fiction as suits our mood. They indeed help us to while away many moments and instruct us when inclement weather keeps us indoors. We want to thank you for this pleasure and privilege allowed us."

"In appreciation of the reading matter, books, magazines and newspapers furnished Ward II, I am permitted a word of praise. These literary and news advantages have been a source of great pleasure and diversion and no little fund of information during my three months sojourn here."

"As I have never read in but very few books until I came here, on account of close confinement I began reading the book, 'The Price of the Prairie.' Thought that I would read some for pastime and the book became very interesting to me. Also started another but have not finished it yet. I certainly enjoyed the first but cannot get much interest from the latter, which is 'Innocents Abroad.' "

"I derive much benefit from the books insomuch as they pass the time pleasantly, leave one in a happy state of mind and give food for thought. I specially enjoy those dealing with home life, such as Grace Richmond's, Kathleen Norris, and Eleanor Porter. I also enjoy those of travel and history."

"Among the many pleasant advantages offered by this free institution, the library deserves honorable mention. Any one who is considered able is allowed to draw books and take them to his ward. Among the books which the writer has enjoyed the Oregon trail by Francis Parkman ranks first, as picturing the hardships of the early settler, with its fascination of style and diction which make it interesting as a novel. I also like the writings of Rev. Van Dyke in his 'Little Rivers,' 'Days Off' and others vividly describing fishing and hunting trips. What a difference between the pleasure of listening to choice literature in the commodious library hall and doing all your reading in a ward, surrounded by a group of unfortunates who do not know what they say, nor how they say it, nor when! Surely the library hours are an agreeable change from the daily routine of our life of seclusion. All this is a step in the right direction, conducive to mental healing, resulting in self-control, accompanied by will-power."

Sterilized Games for Children

If you want to be strictly up to the minute, you will provide sterilized games for your children.

Under the direction of the Iowa Association for the Prevention of Tuberculosis, Des Moines school children will be instructed in antiseptic games. Education and health organizations are combining forces in a unique manner in the appointment of a Health Games Committee, consisting of educators, physical directors, and other interested persons. Games emphasizing hygienic teaching, good-health fairy stories, and other cheerful methods of acquainting children with ideas of health, will be introduced. "Swat the fly," a modification of the game of tag, and a "summer shadows" game, in which the person who is "it" is privileged to tag you when you are out of the sun, are some of the games already devised.—Child Betterment and Social Welfare.

The Problem of the Crippled Children

Investigators report that there are at least 3,000 crippled children in the state of Illinois. There is not a single public institution in the state to care for these youngsters, who are handicapped in life's race from the start. There are in Illinois only three institutions—all private—for this purpose, and their combined capacity is only two hundred.

To state such facts is to suggest the obvious remedy. Experts tell us that schools for crippled children without scientific orthopedic care to go along with tuition are next to useless. Mind culture in such cases is less important than body culture. The worst feature is that a large proportion of juvenile cripples are the children of poor parents. The agencies of the state, or at least of the county, must come to the rescue for real curative measures. These thousands of crippled children should get a helping hand in a humane commonwealth.—Child Betterment and Social Welfare.

LETTERS TO THE EDITOR

Nurses and Factory Labor

To the Editor of THE MODERN HOSPITAL:

Nothing has attracted so much attention from the hospitals of Illinois recently as Senate Bill No. 90, an act to regulate and limit the hours of female employees to eight hours a day or forty-eight hours a week.

In framing this bill, the originator saw fit to include hospitals; therefore it directly hits the training schools for nurses. Whether this was intentional or not I do not know. I cannot believe that it was. Some consideration must have been given this point, however, for Section I provides that the provisions of the section shall not apply to graduate nurses or nurses assigned to services in operating rooms in hospitals. Why the graduate nurses were favored I do not know.

Several years ago, a wealthy man with a kindly heart left $25,000 to build a hospital to care for the sick of the city in which he had lived and prospered. The executors, in carrying out the instructions of the deceased, proceeded to build the hospital. They soon found that the amount of money left would not build, equip, organize, and start the work as it should be. The result was that this hospital has always been handicapped and is really only a makeshift. Had this kindly gentleman called to his assistance a hospital expert or a well-balanced hospital superintendent, I am sure he would have made different provisions in his will. And so it is with this bill. Had the originator consulted a hospital expert, I feel confident it would have been drawn up with more discrimination.

In legislating on hospitals, their relation to the state should be carefully considered. There are three classes of hospitals: 1. Those that are chartered by the state, whose object is to afford medical and surgical aid and nursing to sick and disabled persons, of every creed, nationality and color; these are not to be operated for profit. Some of these hospitals are spending many thousands annually for charity, thus relieving the state of this burden. Some states make a per capita allowance for the care of free patients, but Illinois does not. Why should the state add any more burdens to these hospitals?

2. Hospitals that do *no* charity work and are run for profit.

3. Municipal hospitals.

Many of these hospitals have no well-organized training schools for nurses, but hire their nurses outright. Most of our hospitals do charity work and train nurses. All are contributing something to the state. In case of war, our government will have to draw on all our hospitals for nurses, regardless of their size or standing. These women must be trained for service. They are unlike the new recruit in the army: the government takes him and trains him; our nurses must be a finished product. Therefore, is it right to interfere with this development work by legislation officials?

The hospitals do not wish to kill the eight-hour bill, but they believe hospitals should not be included. Hospitals should not be placed in the same class as factories or even hotels. The sick must be cared for twenty-four hours a day, seven days in the week. Nurses and employees caring for these sick people cannot always drop their work when the whistle blows, as in a factory. Their work is of such a nature that it may mean unnecessary suffering to a patient to leave in the midst of an important treatment.

The bill does not include graduate nurses. I cannot understand why they should not be included. Most of these nurses are employed by patients occupying private rooms in hospitals and in private homes. The majority of our sick are unable to employ a graduate nurse; they must take what the hospital can give them. Why legislate against the sick poor and not against the rich?

As to maids in hospitals, they are better cared for physically than those in private homes; their hours are more regular and shorter; they have more time to themselves. Why legislate for the hospital maid and not the private home maid? With the scarcity of female help that now exists, it will be almost impossible to increase the number of maids to fill the gap. There also exists all over the country a shortage of young women who are fit for the nursing profession. In my opinion, this bill will have a tendency to lower the standard of our training schools for the following reasons:

It ranks nursing schools with factories, stores, hotels, etc., instead of as educational institutions.

It places our schools under inspection according to factory methods rather than as an educational institution.

It will have a tendency to develop a wrong spirit of nursing, which should be one of unselfish service. A nurse should not have in mind that she must leave her patient regardless of his condition when the clock registers the hour. With the advance in medical science has come the necessity for intelligent nursing. In many cases, the life or death of the patient depends on devoted, intelligent nursing.

ASA S. BACON,
Superintendent Presbyterian Hospital, Chicago.

Hospitals and Suits for Damages

To the Editor of THE MODERN HOSPITAL:

You have asked me to state the law regarding the liability of hospitals to respond in damages to patients who suffer injuries due to the negligence of doctor, nurse, intern, or other employee.

One must start with the premise that the law affords a remedy for every wrong. This being so, it becomes a matter of vital interest to know whether or not a hospital, merely because it ministers to the sick and needy, is relieved from that liability which the law imposes on all individuals and corporations.

At the outset, let me state that in discussing hospital liability I do not refer to the liability of those private hospitals that are organized for gain and that are incorporated under the laws of a state in a manner similar to the incorporation of business enterprises—that is, those hospitals that have a capital stock and pay dividends or that are organized for the purpose of making money for the men who own the capital stock in the corporation.

I refer rather to the hospitals generally known as "charity" hospitals—those organized under charters granted by the state, not for pecuniary profit, but, in referring to charity hospitals, bear in mind that I do not mean hospitals that have *only* a charity service, but I mean to include

in the designation of "charity hospitals" all of those institutions that are organized not for profit and that render a free service and part pay service and a private room service charging full pay.

The position that courts have taken with reference to the exemption of liability for torts committed by employees has reference to those hospitals that charge their patients just as well as to those institutions that render an exclusively free service.

Ordinarily, when a person, firm, corporation, or institution employs another in the pursuit of its business venture, the master is held liable for the negligent acts of the servant within the scope of his employment. This is known in the law as the doctrine of *respondeat superior* —that is, the master or employer must respond in a court of law for the acts of his agents and employees, and, if one is injured through the negligence or carelessness of the employee, the master must respond in damages. This is a well-settled doctrine of law.

The question then is, under what circumstances are hospitals relieved from the application of the doctrine of *respondeat superior?*

There is probably no hard-and-fast rule that charitable corporations are never liable under the doctrine of *respondeat superior*, but, if there is, it is strictly limited to the negligence of servants and has no application where the negligence is that of the corporation itself with respect to its primary duties. Perhaps a true statement of the rule is that in certain classes of cases plaintiffs are estopped from invoking the rule of *respondeat superior.* This seems to be on the theory that when a patient or other person applies for or receives treatment at a hospital or other charitable institution, and the relation of benefactor and beneficiary exists, an agreement to hold the hospital harmless from the negligent acts of its servants necessarily arises by implication from the relation of the parties.

Another theory on which the courts have exempted hospitals and charitable institutions from liability for the negligent acts of its employees is the doctrine of absolute immunity, on the theory that the endowments and funds owned by the charitable corporation create a sacred trust to be administered according to the will of the donors, and that the law will not allow a diversion of those trust funds for the purpose of satisfying claims for damages that may arise, due to the carelessness or negligence of employees of the trustees who are, for the time being, administering the trust imposed on them.

There is a great diversity of judicial opinion upon this subject. The law seems to differ in the various states of the Union.

Where the doctrine of absolute immunity obtains, it is rested upon the proposition that the funds of the corporation are the subject of a charitable trust, and that to subject its property to a judgment would be an illegal diversion and waste of the trust estate. I find that this doctrine has been asserted in Pennsylvania, Maryland, Tennessee, Kentucky, Illinois, and Missouri.

In Illinois the question, so far as I have been able to learn, has been passed on but once by our Supreme Court, in the case of *Parks* vs. *Northwestern University*, 218 Ill. Supreme Court Reports, page 381. In that case a student in the department of dental surgery, who was paying his tuition, charged that he received injuries resulting in the loss of an eye, through the negligence of one of the professors employed by the Northwestern University, while he was a student at work in one of the laboratories. The court exempted the university from liability, on the ground that it was a charitable corporation organized not for pecuniary profit, and that to permit a recovery would permit a diversion of its funds.

The court said:

"The funds and property are held in trust, and cannot be diverted to the purpose of paying damages for injuries caused by the negligent or wrongful acts of its servants or employees to persons who are enjoying the benefit of the charity. An institution of this character, doing charitable work of great benefit to the public without profit, and depending upon gifts, donations, legacies and bequests made by charitable persons for the successful accomplishment of its beneficial purposes, is not to be hampered in the acquisition of property and funds from those wishing to contribute and assist in the charitable work by any doubt that might arise in the minds of such intending donors as to whether the funds supplied by them would be applied to the purposes for which they intend to devote them or diverted to the entirely different purpose of satisfying judgments recovered against donee because of the negligent acts of those employed to carry the beneficent purpose into execution."

Perhaps the leading case found in the books upon the question of hospital immunity is that of *Powers* vs. *The Massachusetts Homeopathic Hospital*, 109 Federal Reporter, page 294. In a very able opinion written by Mr. Justice Lowell, of the United States Circuit Court of Appeals, the entire field of the law pertaining to the exemption of hospitals is thoroughly reviewed.

This was a typical case of hospital negligence, in which a nurse placed a hot-water bag against a patient, resulting in severe burns. In that case the patient was what is commonly called a "paying patient," her rate being $14 a week. Counsel in that case undertook to distinguish the case from that of a patient in the hospital who pays nothing, and the court held the difference to be immaterial.

"The corporation was organized for charity. That the ministrations of such a hospital should be confined exclusively to the indigent is not usual or desirable. Those of moderate means from necessity, and not a few people from choice, resort to great charitable hospitals for treatment, especially in surgical cases. Throughout the world this is the custom in these institutions, whether they are maintained by individual, religious or municipal charity. From patients who are not indigent, a payment is permitted or required."

"Commonly," said Mr. Justice Lowell, in writing the opinion of the court in the Powers case, "this payment does not make full pecuniary compensation for the services rendered. Those who make a considerable payment not infrequently receive, in some respects, a more expensive service than those who make a small payment or none at all. But the payment required is usually calculated upon the patient's ability to pay, rather than upon the whole cost of the treatment he receives. In our opinion, a paying patient in a hospital as well as a non-paying patient, seeks and receives the service of a public charity; that such a hospital in its treatment of a rich patient, shall be held to a greater degree of care than in its treatment of a pauper, is not to be tolerated. Certain luxuries may be given to the former which the latter does not get, and this for various reasons, but the degree of protection from unskilled and careless nurses must be the same in both cases. It would be absurd to make the hospital's liability for an accident dependent upon the payment of that insignificant proportion of the service rendered, which, in some cases, may properly be required from a poor man or woman. We are of the opinion that the case must stand the same as if the patient had been admitted without any payment whatever."

"We have to determine, then, if a patient admitted to a hospital maintained for charity can recover judgment against that hospital for injuries caused by the negligence of a nurse employed therein," and the court in that case held that the hospital was not liable.

A familiar principle of law is that a man is sometimes deemed to assume a risk of negligence, so that he cannot sue for damages caused by the negligence, and on this theory it seems Mr. Justice Lowell found reason for exempting the Massachusetts Homeopathic Hospital from liability.

The court said:

"One who accepts the benefit either of a public or of a private charity, enters into a relation which exempts his benefactor from liability for the negligence of his servants in administering the charity. It would be intolerable that a good Samaritan, who takes to his home a

wounded stranger for surgical eare, should be held personally liable for the negligence of his servants in the eare for the stranger. Were the heart and means of the Samaritan so large that he was able not only to provide for one wounded man, but to establish a hospital for the eare of a thousand, it would be no less intolerable that he should be held personally liable for the negligence of his servants in caring for any one of those thousand wounded men.

"The persons whose means has established hospitals are good Samaritans, perhaps giving less of personal devotion than did he, but by combining their liberality, thus enabled to deal with suffering on a larger seale. If, in their dealings with their property appropriated to charity, they ereate a nuisanee by themselves or by their servants, if they dig pitfalls in the grounds, and the like, there are strong reasons for holding them liable to outsiders, like any other individual or eorporation. The purity of their aims may not justify their torts; but if a suffering man avails himself of their charity, he takes the risk of malpractice, if their charitable agents have been carefully selected."

Other authorities holding a hospital not liable for the negligence of its employees are:

Hearns vs. *Waterbury Hospital*, 66 Conn., 98.
Benton vs. *City Hospital*, 140 Mass., 13.
Corbett vs. *St. Vincent's Industrial School*, 177 N. Y., 16.
Lyle vs. *National Home for Disabled Volunteer Soldiers*, 170 Fed., 842.
Downs vs. *Harper Hospital*, 101 Mich., 555.
Thornton vs. *Franklin Square House*, 200 Mass., 465.

While the weight of authority seems to exempt hospitals from liability, sight must not be lost of the fact that there is a strong line of decisions holding the contrary view. Perhaps the latest exposition of the law holding the contrary view is to be found in the decision of the Supreme Court of the State of Alabama in the case of *Tucker* vs. *Mobile Infirmary Association*, reported in 56 L. R. A. (N. S.) at page 1167, in the note to which decision will be found a collection of important cases sustaining the doctrine announced in the Alabama case.

THE MODERN HOSPITAL should call particular attention to the fact that hospitals should not act upon the law as announced in the foregoing, without first determining whether the state in which the particular hospital is located is one of the states that adheres to the doctrine of absolute immunity or whether it is a state that applies the contra doctrine. A. J. PFLAUM.

The Relation of Hospital and Patient

A patient, writes Dr. D. P. Maddux in the *Pennsylvania Medical Journal*, has the right to assume, when he enters the ward of a hospital, that he will be placed under the professional care of some one having special proficiency in the condition for which he sought hospital care. The patient has the further right to assume that all modern, scientific methods will be employed to discover as completely as possible all that relates to the condition for which he was admitted. Unless this is done, the relation of the hospital to the patient is an unfair one.

The relation of the patient to the hospital is also manifestly unfair on his part when he obtains admission as a free or part-pay patient, though able to make full payment.

While, of course, the hospital is disposed to give to the patient the benefit of the doubt and accept his statement of inability to pay on its face value, yet, if a hospital admitted all such patients on a tentative plan, the final financial adjustment being dependent on obtaining the complete facts, much money now lost would revert to the hospital treasury. We hear much of the dispensary abuse, but the hospital abuse is a close second.

It is also a manifest injustice to permit a patient to be classified as a "pay patient" by the payment of $1 per diem when the cost of his actual maintenance may be double that amount. The attending physician or surgeon should not have the right to ask or collect his professional fees from the patient in the hospital until that patient has paid the actual cost of his keep.

EYE STRAIN IN GOVERNMENT EMPLOYEES

Surveys and Examinations Are Made of Treasury Building Workers by Experts—Changes Being Made and Corrective Work Done

In view of the importance of the condition of the eyes of employees of the Treasury Department, the great majority of whom are employed in occupations requiring constant accurate vision at short focal distances, an effort has been made to ascertain the exact condition of the illumination of the Treasury Building and to correct any faults found. At the same time an ocular survey of the employees has been in progress for the purpose of determining and correcting any deleterious effects on the eyes ascribable to the nature of different occupations or lighting conditions.

For this purpose, two scientific surveys have been in progress. First, a complete survey of the lighting of the building has been made by a lighting engineer, Mr. Davis Tuck, detailed by the U. S. Public Health Service, who has determined the illumination afforded each desk in the building. Alterations according to his recommendations are being made. In this way it is hoped to secure even and mathematically correct illumination at each desk in the different rooms, at the same time promoting comfort of employees and avoiding disagreeable and irritating effects of glare.

Second, a commissioned officer of the U. S. Public Health Service, Surgeon G. L. Collins, has been detailed to ascertain the condition of the eyes of employees, with any possible effect on them from present lighting conditions, and from the nature of the work performed. This officer has already made careful examination of the eyes of about one thousand employees in the Treasury Department employed in different occupations under different lighting conditions, ascertaining the visual and refractive conditions and noticing particularly any signs of internal irritation or inflammation that could be ascribed either to faulty lighting conditions or to special occupations.

While this investigation is not completed, according to this officer, no case of the few instances of serious eye trouble so far noted could be ascribed to faulty lighting, although a considerable number of cases of ocular irritation, usually of mild degree, ascribable to insufficient or improperly placed lights, were noted. In such instances efforts have been made immediately to correct the illumination.

In a far greater number of cases, symptoms of ocular irritation and eye strain were noted in those persons who were found habitually to use the eyes to excess, in many instances actually abusing them. These cases were usually noted among ambitious individuals who used their eyes for the near work imposed by their duties during the day, and also made a practice of using their eyes for hours of study at night.

An attempt has been made to give such advice and suggestions relative to ocular hygiene and such admonition against different forms of abuse of the eyes as will lead to lasting benefit to the employees while permitting a maximum of efficiency in the government service.

St. Francis' Hospital, Pittsburgh, Pa., is building a pathological laboratory to cost $25,000.

QUERIES AND ANSWERS

Price of Endowed Beds

To the Editor of THE MODERN HOSPITAL:

We are establishing a charity bed, a new venture in our institution, and there is some division of opinion among the committee and the board of directors regarding the price per year.

I am writing to ascertain what the price should be, and what is customary in other hospitals. Is $500 per year for a ward bed too much and $300 per year too little? We would appreciate some advice in this matter.

ILLINOIS.

You will know better than we what your per capita cost is and from that you can frame some sort of idea as to what it costs you to take care of a patient for a year, and then, in turn, you can determine whether you want to make a profit out of the bed in addition to the actual cost of maintaining it. Suppose, let us say, your per capita cost is $2, including everything; there are 365 days in the year, which means that your actual cost of maintaining that bed will be $730.

Of course, all sorts of prices are fixed for endowing ward beds, all the way from $300 up, but why shall we fix a price that is going to make it necessary for the hospital to meet a big deficit for that bed each year? In other words, we think the hospital ought to face the actual facts of the case and neither attempt to deceive itself nor anybody else. It is very certain that you cannot maintain a ward bed for $300, and if you are giving your patients all that modern medicine demands that they shall have in the way of nursing care and good hospital service, you are hardly running nowadays for less than $2 per day per patient.

Our own judgment is that you had better fix the endowment for your ward beds at $1,000, and for that the donor of the funds will have a right to expect for the patient he has paid or is paying for, modern care under modern conditions. The slogan that we are aiming at in our hospitals today is "Not how cheap, but how good."

Cost of a Small Hospital

To the Editor of THE MODERN HOSPITAL:

We are agitating a municipal hospital, and are seeking information as to the cost of a small hospital of about 20 or 30 beds. Do you know of any hospitals that size that are self-supporting? Any information you can give will be greatly appreciated. A NEW YORK HOSPITAL.

There is no doubt whatever that a 20- or 30-bed hospital can be made self-supporting if the conditions are anything like the average in this country. Such a hospital will never be self-supporting if the people of the community expect you to fill it up with charity patients, nor will such a hospital be able to keep full of pay patients unless the institution has the confidence and support of the physicians in the community to the extent that they are willing to send their paying patients there. In any average community in this country a hospital, if it is conducted on modern lines and enjoys the confidence of the medical profession, can be self-supporting provided only paying patients are taken. It is possible to take even a very few free patients and still maintain the self-supporting basis, but that principle is wrong and ought not to be invoked.

The point we make is that when a free patient is admitted to a hospital, funds must be provided for the specific purpose of caring for that free patient apart from the earnings from other patients; in other words, you have no right to take into your hospital a person who happens to have money, catch him on the flat of his back when he is helpless, and take out of his pocket the money not only to pay for his own keep, but also to pay for the keep of some other patient. The principle is not good morals.

The first thing to be done, of course, is to make all of your plans beforehand, make a survey of your community as to the need for the hospital, the size and character, see where the funds are to come from, plan the building, determine whether there is to be a first unit of a structure to be added to from time to time, or whether the hospital is to be built all at once. Then the hospital should be equipped modestly but completely, and in accordance with the demands of modern medicine.

It is in the organization, the manning of the hospital at the outset, that you can play safe. You should start out very modestly, with barely enough people to run the hospital at its minimum capacity, and then add to the number as the number of patients grows and your financial ability increases. It is the use of good judgment in the creation of the personnel of a hospital that means more in its success or failure than anything else, provided, of course, that the hospital has been properly built and properly equipped.

As for the cost: The average cost of a 30-bed fireproof hospital should be from $2,000 to $2,500 per bed. These figures can be reduced to about $1,000 per bed when non-fireproof materials are used. All figures are transferable into terms of cubic-foot costs by architects, but for your preliminary purposes, per-bed costs will do.

To Replace Old Flooring

To the Editor of THE MODERN HOSPITAL:

We wish to take advantage of the best information you may have on the question of best material for use in replacing old corridor floors. In part of our building the corridors have a flooring of pine, laid nine or ten years ago, with a 6-foot battleship linoleum runner partly covering it. We find that on account of the manner in which this floor was laid the boards eventually wear a little loose, and this wearing in turn loosens the nails, which work up through the linoleum. Where the floor is not covered with linoleum it is beginning to show considerable wear in places and slivers up somewhat.

In order to save the linoleum and also to lessen noise and obtain a more durable and lasting flooring, we have had some thought of using one or another of the plastic compositions which are advertised to be suitable to be laid over old floors. Would such a covering be satisfactory laid on an old floor without the addition of subflooring, perhaps steel lathing, too, and other deadening materials? If plastic floor or covering can be recommended, do you have any special brand considered the best, and also the address.

Do you think it would be more satisfactory in the long run to figure on a hardwood floor and take up the old one entirely?

Any information you may be able to give us on this question will be appreciated. AN OREGON HOSPITAL.

Of course, if you have the money and can afford it, the thing to do is to take up the old soft wood floor and put down a hardwood, preferably maple or oak. Perhaps, in view of your locality and remoteness from mechanical experts who can be had for the proper laying of one of the plastic floorings, this would be the more economical course

in the long run. Some of these plastic floors have given the greatest satisfaction, and others of the same make, furnished by the same people, have had to be torn out inside of a year. The materials were precisely the same, but the mixing and laying were different. If you are to import experts over long distances and keep them a couple of weeks, which is the necessary time, your plastic floor will cost you more than hardwood. These composition floors, laid in expanded metal on old floors, cost about 26 to 30 cents per square foot, according to the size of the contract and the distances in town that the men have to travel. This cost would be far greater if experts had to be brought long distances.

It might be a good thing for you to take up your linoleum, if it is still in good condition, draw the nails that seem to have worked loose, put in some good, small-head wire nails to hold the flooring in place snugly, and then put down building paper under the linoleum. The only way to put down this paper, however, is to use a whitewash brush and a paste on the floor first (ordinary starch paste will do); then put down the building paper, let it dry, then put on the battleship linoleum cement, also with a whitewash brush, on the upper side of the building paper. Put weights on the linoleum until it sets well and then put a brass rim on both sides of the linoleum. These rims are to be had at almost any hardware store. The rim is nothing more or less than a piece of brass about one and a half inches wide, folded over so that the under surface of the rim will slip under the edge of the linoleum, the upper surface being nailed down through the linoleum and floor. This rim gives a nice appearance to the job and protects the linoleum perfectly. We have not worked out anything that can be called standard for laying over old flooring. We have been experimenting for years, and the manufacturers are having more trouble than we are about finding something.

Ruling on Internship

New rules governing the appointment and employment of interns are embodied in a resolution adopted by the Ohio State Medical Board at a meeting held in Columbus, January 2. The resolution follows:

"WHEREAS, The State Medical Board considers hospital internship as furthering the better medical education of prospective practitioners,

"Be it *Resolved*, That unsalaried intern service shall be considered as a part of the medical education course and holders of such intern appointments shall not be required to be licensed in Ohio during their term of service, provided such interns at the time of their appointment file with the secretary of this board their respective preliminary and medical qualifications, the date and term of the service, and the name of the hospital;

"Be it further *Resolved*, That salaried intern service shall be considered as the practice of medicine and the holders of such intern appointments shall be required to secure licenses in Ohio; and,

"Be it further *Resolved*, That all previous rulings of this board in conflict with these resolutions be and are hereby rescinded."

The foregoing action is regarded as a step toward the requirement of an intern year as a requisite for medical licensure in Ohio.

That chains, shackles and other forms of restraint employed in removing patients from their homes to the various state hospitals be abandoned so far as possible is recommended in a recent report of the Illinois State Charities Commission. The commission suggests that patients be taken to the hospitals by trained nurses sent from the institutions for the purpose.

BOOK REVIEWS

A Nursing Manual for Nurses and Nursing Orderlies. By Duncan C. L. Fitz Williams, M. D., Ch. M., F. R. C. S. Oxford Medical Publications, London.

This book, written and published primarily for Red Cross workers and orderlies, has much to recommend it to students of anatomy and practical nursing anywhere.

As the author states in his preface, not only has he described the organs of the body anatomically and physiologically, but also he has associated such description with an account of the diseases to which the organs are prone. For instance, after presenting a study of the nervous system in the way in which it might be done in an ordinary anatomy and physiology, he discusses the common diseases to which the nervous system is subject and their management by the nurse. Under paralysis may be found advice as to its nursing care, even to the prevention of bed sores and methods of arranging the bed in a way to cause the least discomfort to the patient, together with instructions regarding lifting and moving him. Even if one were unskilled or altogether unacquainted with such matters, one could get a pretty definite idea of how to lift and move a patient properly, while to the nurse teacher the directions would be most useful as supplementing her own knowledge and possibly suggesting changes in her methods.

Following the subject of the kidney is a description of its most frequently noted diseases with a consideration of the diet to be safely allowed. The chapter on inflammation, its causes and treatment, is most interesting as well as instructive, and the experience of the practical teacher must be vast in order to furnish the substance for an equally good lesson to her class.

The chapter on children and their care, including feeding and management generally, will be found useful by the mother as well as nurse, while the chapters on nursing appliances and miscellaneous first aid not only give absolute directions, but are extremely suggestive of other ways and means of accomplishing the same purposes.

Altogether, this new nursing manual for nurses and nursing orderlies may be considered a valuable addition to the list of text-books on nursing subjects.

The Memoirs of a Physician. Translated from the Russian of Vikenty Veressayev by Simeon Linden, with an introduction and notes by Henry Pleasants, Jr., M. D. Pp. 374. Cloth, $1.50 net. Alfred A. Knopf, New York, 1916.

This book purports to set forth the views and professional experiences of a young Russian physician, who calls himself "but an average practitioner with average ability and average knowledge." "An average practitioner" presumably means "a practitioner of average standing and success." That "Vikenty Veressayev" is an average (in the sense of representative) practitioner the reader may be pardoned for doubting, even while pretending to no knowledge of the "average" in Russia. Educated, intelligent, and kindly, "Vikenty Veressayev" is irresolute, despondent, and morbidly sensitive. The uncertainties of diagnosis,

the inevitable errors of the best and most conscientious practitioners, the misunderstanding of physicians by their patients and the public, the unsatisfactory financial and legal status of the medical profession—all these overwhelm him with gloom. His memoirs have an accent of sincerity, and such exaggerations as they may contain are apparently due to temperament rather than to intention.

A frank, well-balanced, constructive discussion of some of the problems raised in this book would be instructive. It is a wholesome thing for the laity to know and for physicians to acknowledge that medicine is not infallible, that physicians are human beings, not archangels, and that there are many things in medical education and the conditions of medical practice which might be improved. This book, however, though it is frank enough, is neither well balanced nor constructive. The reader who can restrain a certain natural irritation at its tone of hopeless and helpless pessimism will find it interesting (1) as a statement of certain difficulties that beset medical practice in general; (2) as a description of conditions affecting medical practice in Russia; (3) as a study of the temperament that should never, so long as more courageous temperaments are to be found, undertake the practice of medicine.

The Tuberculosis Nurse, Her Function and Her Qualifications. A Handbook for Workers in the Tuberculosis Campaign. By Ellen N. Lamotte, R. N., graduate of Johns Hopkins Hospital. Introduction by Louis Hamman, M. D., physician in charge of the tuberculosis dispensary, Johns Hopkins Hospital. Cloth, $1.50. Pp. 292. G. P. Putnam's Sons, New York, 1915.

Miss Lamotte presents to the public a stimulating work, not only for the public health nurse, but also for nurses in general and for the laymen interested in the social welfare, as well as for the hospital manager to whose institution may some day come the tuberculosis patient. The book offers: (1) a fine study in ethics (Chapters II and III); (2) very excellent directions for work (Chapters IV and V); (3) an insight into the sociological and physiological conditions peculiar to this disease, complicating, for the man in private practice and especially for the state, the handling of such patients (Chapters VI and VII); (4) a statement of the problem presented to the nurse in work with physicians of many types, and the gaining of her patient's confidence, to enable her to have the case diagnosed by a recognized physician of the dispensary (Chapters VIII and IX); (5) a careful outline of the attempts made to prevent the spread rather than the cure of the disease, through the care of the patient, for the good of the community (Chapters X and XI); (6) instructions for the direct protection of the family, with the uses of careful fumigation and disinfection of houses and furnishings; (7) a description of the function and equipment of the dispensary and sanatorium and a statement of the necessity for segregation of advanced cases (Chapters XIV-XV); (8) a statement of the problem of giving financial relief and of the dangers to the public in the many occupations followed by tuberculosis patients (Chapters XVII and XVIII); (9) an exposition of the advantages of municipal and the dangers of political control of the work of the health department and its fundamental agencies, the hospital, the dispensary, and the public health nurse.

Besides the treatment of the subject as outlined by the chapters specified, there is a note of sympathy for the patient, for the public, and for the nurse worker that is most attractive and induces even the casual reader to give it close attention even to the very last page.

Hospitals and training schools must be grateful for this contribution to their reference libraries.

NEW INSTRUMENTS AND EQUIPMENT

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Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Hypodermic Units

The Greeley hypodermic unit consists of a collapsible metal container, threaded at one end and having the hypodermic needle slipped into the hub of the thread. Over the threaded portion a sterile glass protector is attached.

The simplicity of the unit recommends it for use in the operating-room, at the bedside or in the ambulance. The units are furnished in a great variety of sizes and containing practically all drugs which are used hypodermically. It eliminates, of course, the piston and plunger syringe and requires no sterilizer, as the needle itself comes sterilized ready to use. Each unit is used but once and destroyed after using; thus there is no possible chance of carrying infection from one patient to another.

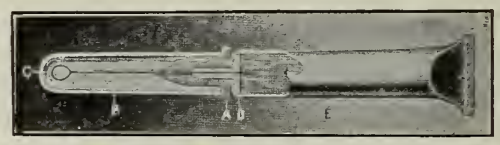


Fig. 1. The Greeley unit. Twist off the cap B, withdraw the stylet C, and the unit is ready for use.

For hospital work in particular, this unit should meet with extensive use.

The Berry Window Ventilator

Here is a window ventilator which should appeal strongly to all hospital people, for the reason that it does away entirely with all drafts, thus permitting fresh air to reach the room, but regardless of outside weather conditions, never permitting draft, dirt, rain, or snow to pass.

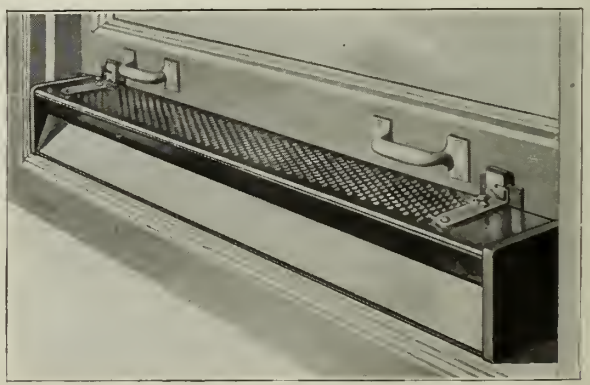


Fig. 1. Window open with Berry ventilator in use.

In form it is extremely compact and has the novel

feature of being self-collapsible when the window is closed. The amount of air admitted is regulated by the extent to which the window is opened.

The device is of such construction that there are no parts to get out of order, and, being made of a non-rusting material, heavily enameled, it retains its new appearance for an almost indefinite length of time.

Fig. 2. Window open with Berry ventilator not in use.

The ventilator is supplied enameled in oak or mahogany finish and can be quickly installed by anyone. The ventilators are regularly supplied in sizes ranging from 17 to 71 inches from sill to sill; considering the construction, the prices are quite reasonable.

Device for Warming Ether During Inhalation

Dr. J. E. Engstad, of Minneapolis, has devised an ether inhaler which permits of a warm ether vapor without the additional complicated parts. An ordinary ether inhaler mask is reinforced with a coil of German silver wire tubing of No. 12 gauge. To both ends of the tubing a stop-cock is fitted, which aids in controlling the flow of the

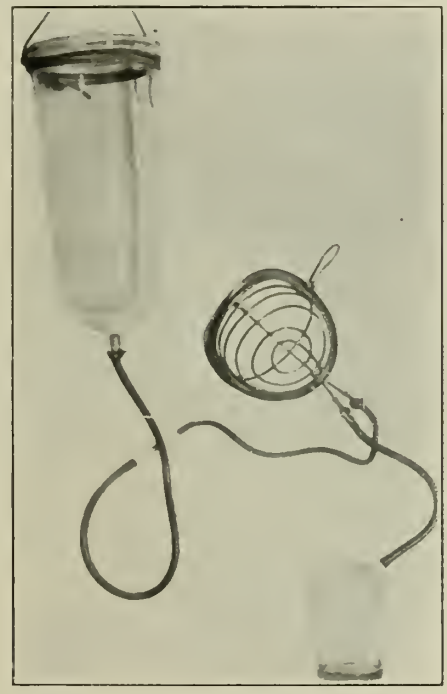


Fig. 1. The Engstad warm ether inhaler.

warm water through the tubing. Experience has shown that water of a temperature of 121 degrees gives the best result.

A percolator or any receptacle capable of holding water is attached to one stop-cock with a rubber tube, and is elevated about 3 feet above the mask. To the other terminal a tube is fitted to lead the returned and cooled water to a basin.

As an ordinary ether mask, the spiral wire reinforcement adds strength and a framework for the gauze, which is much to be desired in the ordinary inhalers.

Gases expand and the molecules are broken up as to the square of the temperature. It follows that the molecules, being smaller and less stable if warmed, enter the blood circulation with increased rapidity, are more diffusible and more rapidly eliminated than if the drug was inhaled and absorbed in a less diffusible form.

The amount of ether used is proportionately reduced. It is claimed that at least one-third less is necessary for narcosis where heated gases are used than where the fumes are more or less atomized, instead of vaporized into the highest possible unstable molecules, which are rapidly absorbed.

The Wright Splint

A splint which adapts itself to practically any shape, yet which has the necessary strength when placed, is always of interest.

The Wright wire gauze splint, here illustrated, is extensively used by the United States Army and the American Red Cross. It seems to fulfill every requirement of a

Fig. 1. The Wright splint, showing range of its application.

splint, and can be rolled up to fit into a space 4½ inches round by 1½ inches in diameter.

The material used is a metal properly selected for its strength as well as its adaptability in shaping itself to such parts of the body as it is to be applied. The metal is coated with a non-corrosive material so as to prevent rust, making this a good splint for either plaster bandages or wet dressings.

Air-Pressure Syringe for Anterior and Posterior Urethra

The illustration below represents at one-half actual size a new syringe devised by Dr. Abramovitz. It consists of a graduated barrel into which fits snugly a double rubber bulb. The upper bulb has an air capacity of 10 cc.; the walls of this bulb are thinner than the lower bulb, so that when the upper bulb is compressed the lower one does not collapse. The lower bulb has an air capacity of 20 cc. Its walls are of heavy gauge, and it is compressed by continual pressure from above. The barrel is made of glass, graduated to 15 cc. The tip is cone-shaped, thus best adapted for urethral work.

The syringe is used in the following manner: After the barrel is filled with the desired quantity of the drug to be injected, the contents are expelled in the anterior urethra, followed up with a quantity of air to inflate moderately the canal, which serves to open up the pus pockets in the canal, and allow the medication to reach all the infected areas.

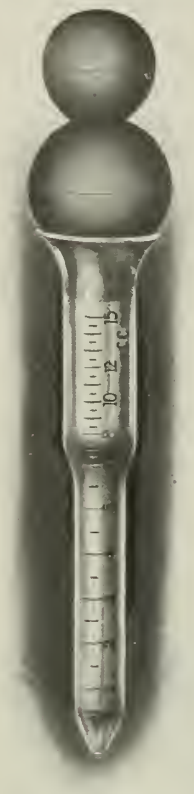


Fig. 1. Air-pressure syringe for anterior and posterior urethra, devised by Dr. Abramovitz.

Posterior urethral instillations are made by injecting the contents of the barrel in the anterior urethra, while holding the organ slightly raised, so that the drug will gravitate to the bulbous portion of the canal. The patient is then instructed to make an effort to urinate, which will relax the compressor urethræ muscle. Pressure is at the same time continued on the lower bulb, injecting in the canal a quantity of air, which will readily push the drug through the narrow part of the canal surrounded by the partially relaxed compressor urethræ muscle. The drug, being pushed through this narrow part of the canal by considerable force, spreads along the walls of the spindle-shaped posterior urethra, and efficiently covers the entire mucosa, while the air passes over the drug into the bladder.

The advantages claimed for this new syringe are as follows:

1. There is no piston and therefore the syringe is more aseptic than regular instillation syringes.

2. The air inflation permits a very small quantity of drug to be sufficient to cover the mucosa.

3. Posterior urethral instillation is made possible without instrumentation, and the instillation is quick, painless, and certain.

Hoglund Bone Engine

Dr. Emil J. Hoglund, a Chicago surgeon, has designed an electrically operated chain saw, trephine, and drill which covers practically the entire field of bone operative work. There are several features of the apparatus which differ greatly in principle from bone surgery engines already on the market. The motor is of compact form of the universal type, and of such size that it can be attached to the operator's belt, or, if desired, suspended from an irrigating stand. A flexible shaft, metal covered, is attached to the motor armature, this shaft carrying the hand-piece.

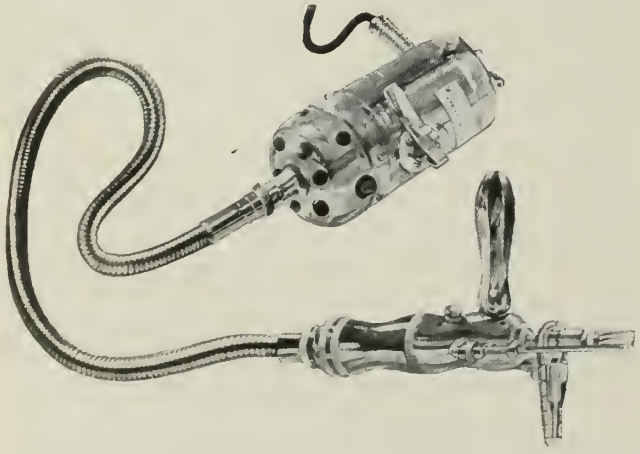


Fig. 1. Hoglund bone engine with cranial saw and trephine.

Fig. 2. Hoglund engine with parallel saw attachment.

For cranial operations the initial opening is first made by means of a modified DeMartel trephine, which is carried on the same shaft which operates the chain saw, and therefore it is not necessary to change implements when the flap is to be cut. By simply turning the hand-piece at another angle, the chain saw can be introduced. A circle can then be cut, measuring as small as three inches in diameter. The dura is well protected from the saw by a guard, and the chain saw is operated with but a minimum effort.

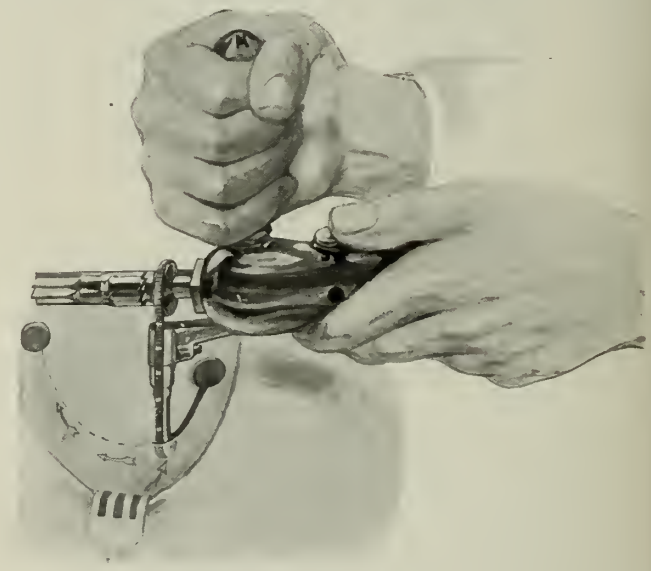


Fig. 3. Hoglund engine with chain saw attachment.

Another important feature of the apparatus is that during the time the flap is being cut the operator always has a good view of the field. If a smaller circle or flap is to be made than that within the range of the chain saw, a

spiral osteotome with guard may be attached, and with this osteotome an extremely small flap can be cut.

For the various long bone operations a set of round and olive burs are available. If a slot is to be cut, as in case of a transplant, the parallel saw is used. The method of attaching this saw is quite simple, and the cutting is all done within full view of the operator. There are no projecting parts sidewise, so that one can work in a deep wound and yet be able to closely observe the extent of the cut.

A set of instruments has also been designed for making the customary dowel pins and screws. The dowel pin is shaped from ivory or a piece of patient's own bone. If it is desired to form this dowel pin into a screw, a tap and die are used, so that the screw is made of the proper size and the threaded pin will fit snugly.

The engine can be sterilized by boiling with steam or solution, as preferred. The weight of the motor is 6½ pounds, and of the complete outfit in case, with all attachments, 15½ pounds, which, together with the fact that the motor is universal, makes it a particularly desirable equipment where one operates at different hospitals. Any of the various methods of making transplants, splints, etc., can be used with the Hoglund engine.

Gallbladder Aspirating Tube

Removing bile of a thick and viscid nature from the gallbladder with the well-known Ochsner trocar is not always easy because the distal opening in the sheath of the trocar is easily plugged up.

In order to overcome this objection Dr. David C. Straus, of Chicago, had a canula constructed, which is shown in the accompanying illustration. The canula is made similar to an Anglin irrigating urethral catheter, but has fewer openings, which are made considerably larger and extend for a shorter distance from the end of the tube. The fluted metal tube has a closed end and the openings are placed laterally in the depressed longitudinal folds. The difficulty of the openings becoming occluded is thus overcome, as the mucosa is held away from the folds by the longitudinal ridges. This canula is connected to a large aseptic glass and metal syringe as illustrated, or to an electrically driven aspirating apparatus by means of heavy walled rubber tubing. As the end of the canula is closed and smooth, one can move it about freely without fear of injuring the gallbladder mucosa, and, owing to the curve of the instrument, one can reach down well into the neck of the gallbladder, or even down into the bile-ducts, in case these are dilated.

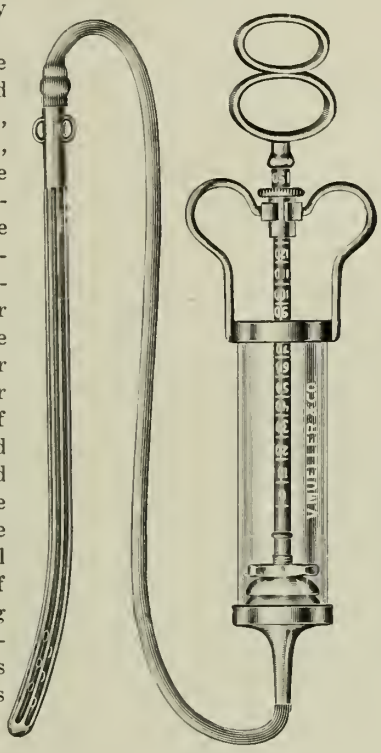


Fig. 1. The Straus gallbladder aspirator.

The instrument can be used not only for emptying the gallbladder, but also for aspirating the contents of the dilated bile passages and the cystic, hepatic, and common ducts, as well as for emptying other hollow viscera.

NEW YORK BUILDING TUBERCULOSIS HOSPITALS

Their Commercial Value to Business Interests Recognized by Railroad—Progress in Construction and Changes in Planning

The last six weeks of the old year witnessed a great deal of activity in the establishment of county tuberculosis hospitals in New York. Forward steps were taken in nine counties: Nassau, Broome, Chautauqua, Chenango, Niagara, Steuben, Rensselaer, Warren and Livingston.

The commercial value of a tuberculosis hospital to business interests has received striking recognition in the case of the Rensselaer County institution. The Albany Southern Railroad Company offered to devote $15,000 toward the purchase of a site along its right of way and accompanied this offer with options upon several properties. The company candidly stated that its offer contemplated a large financial return and that its proposal was a commercial one.

In Nassau County the board of supervisors entered into a contract a purchase a 100-acre property near Farmingdale, and issued bonds in the sum of $100,000 to meet the cost of site and buildings. The property selected had been strongly recommended by the Nassau County Association.

The sum of $150,000 is available for the hospital in Chautauqua County through a bequest made by the late Mrs. Elizabeth M. Newton, of Fredonia. In the case of the Broome County site it is interesting to note that the Lieut. Governor, the Speaker of the Assembly and the State Commissioner of Health unanimously approved the site on appeal by the board of supervisors from the adverse decision of the health officer of the town of Chenango where the site is located.

In Chenango County the board of managers for the new county hospital was appointed; the board of supervisors issued bonds in the sum of $20,000 for the establishment of the institution, and construction was started by the contractors.

Plans for the new Niagara County Tuberculosis Hospital have been filed with the State Commissioner of Health for approval. The sum of $100,000 was appropriated by referendum action of the voters at the general election in 1915.

In Rensselaer, Warren, and Livingston Counties—the three counties in which appropriations for tuberculosis hospitals of $150,000, $50,000 and $35,000 respectively were carried at the polls last November—committees of the boards of supervisors are busily engaged in inspecting sites.

THE MEDICAL RENAISSANCE IN CHINA

Ancient China in Advance of Contemporaries—Present-Day Backwardness in Medicine Rapidly Being Replaced by Scientific Progressiveness

Dr. Wu Lien-teh, whose interesting article[1] on the Central Peking Hospital appears on another page, writes in a recent number of *The Survey* on present and past in Chinese medicine. The theories of health and sickness held

[1] A Modern Hospital Established and Managed by Chinese, this issue, p. 241.

by both educated and uneducated classes for over three thousand years, he says, may be compared to those of the early Greeks. The ancient Chinese, however, were ahead of their contemporaries. For instance, inoculation for smallpox was practiced in China before Lady Mary Wortley Montagu introduced it into England. Medical statistics were published during the Chou dynasty, six hundred years before Hippocrates. While sanitation in the modern sense of the word is rarely seen in Chinese cities, a certain form of hygiene has been practiced for centuries. In spite of some excellent methods of treatment handed down from the ancients, however, the majority of native-trained physicians are completely ignorant of the causes of most diseases, especially epidemic diseases, and the simplest methods of prevention are not practiced even by the educated classes.

Fig. 1. A temple fair frequented by Chinese quack doctors. This illustrates the competition of old beliefs and habits which the new order has to undergo. Courtesy of Dr. F. H. Peabody and *The Survey*.

Although there are vague records of contact with Western medicine as early as the thirteenth century, the actual beginning of modern methods in China dates from the establishment in 1805 of the East India Company's offices at Canton and the introduction by Dr. Arthur Pearson of vaccination instead of inoculation to prevent smallpox. During the nineteenth century, foreign medical missionaries were introduced into China, and the list grew to comprise over four hundred names.

In the twentieth century medical progress was much accelerated. The first especially important event was the great pneumonic plague of 1910-11, which killed more than fifty thousand persons in five months. Almost every city of note in Manchuria was visited and there was no authentic report of any case ending in recovery. Western-trained physicians, with Dr. Wu Lien-teh at their head, were given unusual powers, and the plague was stopped in March, 1911. Following an international conference held at Mukden to study pneumonic plague and to make recommendations, the Manchurian Plague Prevention Service was established with headquarters at Harbin. This service works not only to prevent plague, but also to encourage sanitary reform in general and to promote public health by means of illustrated lectures, lantern demonstrations, and popular pamphlets. It has erected isolation camps at the main railway stations in the north, and treats ordinary hospital patients at its many hospitals.

An imperial mandate sanctioning the cremation of plague cadavers was issued in 1911. This was followed in 1913 by a presidential mandate authorizing the dissection of dead bodies. Together these mandates, so contrary to the spirit of Chinese ancestor worship, constitute an important and interesting breach with the past. In 1915 Western medical science was officially recognized by the central Chinese government.

The first isolation hospital of Peking, with accommodations for sixty patients, was opened last year. One of the best proofs that modern scientific medicine has taken firm root in China is the establishment of the Central Peking Hospital, described by Dr. Wu Lien-teh in this issue of THE MODERN HOSPITAL.

St. Joseph Sanitarium, St. Joseph, Mich., will increase the present bed capacity of eleven beds to eighteen this summer. This addition is said to be justified by the demands of the town, and is to be built with the earnings of the last eighteen months. The present hospital was formerly a handsome residence, which has adapted itself to hospital purposes very comfortably.

Fig. 2. One way of bringing patients in from the country is by wheelbarrow. Courtesy of Dr. F. H. Peabody and *The Survey*.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. VIII *May, 1917* No. 5

AN URBAN COMMUNITY PLAN FOR HEALTH AND MEDICAL SERVICE*

The Social Need—Four Methods of Approach—Requirements—Types of Service—Expenses and Possible Income—A Work for Community Centers

By DONALD B. ARMSTRONG, M. D., Director of the Department of Social Welfare of the New York Association for Improving the Condition of the Poor†, and J. H. BERKOWITZ, Secretary of the Committee on Medical Community Centers, New York

A SOCIAL NEED

WORKERS in the social, health, and medical fields have long realized that, whereas the rich can buy expensive and efficient medical service and the poor are assured of comparatively adequate, if not luxurious, medical provision in public or semipublic medical dispensaries or hospitals, the better-paid wage-earners and the moderately salaried middle class are largely unprovided for. They are not willing to avail themselves of reasonably efficient free medical service and not able to afford professional specialty service.

Is there not some way to give medical care to this large group at what might be called a wholesale rate, and at the same time insure expert and adequately paid medical attention?

Coupled with the realization of the general medical needs of the community is the knowledge of the grossly inadequate public provision for the detection and treatment of diseases and defects among school children, the inefficient and unorganized dispensary service for adults, and the inadequate and disorientated system of hospital facilities for certain types of disease.

There are also the lost opportunities for preventive medical and health-building work in connection with the private and public dispensaries and hospitals, the public schools, and the community organizations allied with the schools.

The suggestion which we here present contemplates the provision of medical and health service on a community basis in cooperation with school groups. It is aimed to meet the health needs of the community through correlating a new type of medical service with existing community agencies. Before outlining this suggestion we would mention that our committee has reviewed a number of alternative or supplementary measures, notably the following:

FOUR WAYS OUT

1. The establishment of a paid dispensary in conjunction with an existing medical institution. This has been done, and with great success, by Dr. Michael M. Davis, director of the Boston Dispensary. More recently a venereal pay clinic has been opened at the Brooklyn Hospital; and at the Mt. Sinai Hospital, under Dr. S. S. Goldwater, a very extensive system of pay clinics has been projected.

2. The establishment of a diagnostic center, such as the one recently opened at the Massachusetts General Hospital in Boston, where private physicians may send their patients for expert laboratory and diagnostic service.

3. The establishment of a specialty center, for a long time recommended by Dr. S. H. Monell (editor of the *Doctor's Pocket*), whereby private physicians, through cooperation, could secure the advantages of extensive institutional equipment, both for diagnosis and treatment.

4. The establishment of a pay evening clinic, not in connection with an existing medical institution or other existing agency, but on an entirely

*Paper (somewhat condensed) read at the First National Conference on Community Centers in New York, and printed here by special arrangement. The suggestions made are the outcome of an investigation conducted during the preceding year by a committee composed of physicians and community workers of which Dr. Haven Emerson, commissioner of health of New York City, is chairman.

†Dr. Armstrong has since severed his connection with the Association for Improving the Condition of the Poor, and is at present executive officer of the Community Health and Tuberculosis Demonstration in Framingham, Mass.

independent basis, probably in a neighborhood inhabited largely by industrial workers.

Finally, we come to the plan for a community-center clinic, the details of which will now be considered.

FUNDAMENTAL REQUIREMENTS

1. The proposed clinic should take advantage of the existing community-center development and should be established on the community or school-group basis.

2. The project should be financed as a corporation, possibly by issuing the stock in its own neighborhood. The incorporation should, of course, apply to the institution and not to the physicians, for in New York State it is illegal for physicians to incorporate the practice of medicine.

3. An outstanding feature of the plan would be the holding of evening clinics. If possible, however, the same equipment should be used for a paid day service, particularly for the correction of the defects among school children.

4. Moderate fees should be charged, probably differing for new and old patients. If in the general medical service the physician employed received possibly $5 for two-hour clinic, and saw fifteen patients during this time, he might have five new patients paying 50 cents apiece ($2.50) and ten old patients paying 25 cents apiece ($2.50), and the service would meet the professional charge. An additional charge would have to be made in surgical service to meet the necessary expense of dressings; but where dental and eye-refraction work is done it might be expected that the returns would provide a sufficient profit to cover the deficit of the least remunerative services. The enterprise should develop toward self-support; but for the first two or three years those financing the project would have to meet a deficit, which ought to be less with each year.

5. The clinic should employ professional service of a superior type such as one finds in a high-grade college dispensary. All professional service should be paid.

6. While closely functioning with existing school activities, the clinic should probably be housed in nearby rented premises.

7. A home-nursing service would be essential from the standpoints both of medical treatment and of educational and preventive work. If a visiting nurse received a salary of $1,200 a year and worked 300 days in a year, making fifteen calls a day, her services would be paid for at 30 cents a call. A slight excess charge could be made to cover the cost of dressings, etc. In a small and dense area, a nurse might make more than fifteen visits a day; the charge per visit could be reduced accordingly.

SUPPLEMENTARY REQUIREMENTS

1. Efficient statistical recording. This measure should be recognized as a routine requirement. All existing medical institutions should, of course, be highly developed in the community-center clinic if the plant is to be utilized on a basis of 100-percent efficiency.

2. An adequate follow-up system by both cards and visits, to be carried out largely by the nurses.

3. General health-educational work should include, in addition to the issuing of popular literature, placards, and public lectures, the following important provisions: prenatal inspection and educational classes for expectant mothers; infants' consultation station, etc.

4. A self-supporting system of physical examination should be considered. It would further the educational work and would be a valuable factor in the control of the increasing degenerative diseases. It would stand between the free dispensary, on the one hand, and the comparatively expensive Life Extension Institute, on the other. Physical examination with urine-analysis, blood-pressure determination, etc., might be proved possible at a cost of not more than $2.

TYPES OF SERVICE

A complete curative and preventive institution would include:

1. General medicine.
2. Surgery.
3. Eye service.
4. Ear, nose, and throat work.
5. Pediatrics.
6. Dermatology.
7. Neurology.
8. Venereal diseases.
9. Gynecology.
10. Dental service.
11. Orthopedics.
12. Obstetrics.

Such a plan would provide complete laboratory facilities, including pathological and x-ray examinations, if required. It might always be economy, however, to make an arrangement with an existing x-ray laboratory.

A druggist, at least on a part-time basis, would probably be needed.

For patients requiring hospitalization, beds would have to be provided. Operative nose-and-throat work, for example, requires hospitalization.

What is above outlined should be viewed as an ultimate development. The initial experiment, designed to test the possibilities of self-support, might utilize staff and equipment for the following services:

1. General medical service.
2. Minor surgical service.
3. Eye-refraction service.

4. Dental service.
5. A minimum laboratory equipment.
6. Home-nurse and social service.
7. General education service, including the prenatal and infant consultation work.
8. Physical examination for adults.

BUDGET

The committee has so far not outlined completely the plans for incorporation or estimated the amount of business such an institution might do, or the probable financial returns. No definite figures have been established as to the charges which it would be reasonable to make. Considerable attention has been given, however, to the cost side of the problem, including professional services, equipment, and maintenance. With the object of soliciting suggestions and criticisms, these cost items might be outlined on a yearly basis as follows:

Medical director (part time) evening	$2,000.00	
Executive secretary (part time)	1,500.00	
Attending physician (part time)	1,200.00	
Surgeon (part time)	1,200.00	
Dentists (2, part time)	2,400.00	
Oculists (2, part time)	2,400.00	
Nurse-registrar (full time)	1,200.00	
Nurses (2, full time)	2,400.00	
Domestic (janitorial)	600.00	
Total		$14,900.00
Rent		1,000.00
Light and fuel		600.00

EQUIPMENT

Minor surgical	$ 300.00	
Dental	1,200.00	
Eye refraction	250.00	
General medical	250.00	
Total		2,000.00
Supplies		1,000.00
Educational work, printing, etc		2,500.00
Office		500.00
Miscellaneous		500.00
Total		$23,000.00

Our committee understands that it is possible for community centers to earn revenues in excess of their expenditures through their recreational activities. Such funds might be used for meeting the excess of operating expenditures over receipts in the medical work, especially during the initial stages of the experiment.

Such a project should be operated after the manner of a private physician's office rather than that of the usual dispensary, for only in this way can be established that attitude of mind among the patrons essential to the success of the venture.

As a basis for thought, not as a final solution, this paper is offered. In the community center there exists a tremendous power built up largely on a recreational and esthetic basis, thus far almost entirely unutilized for community service. It is hoped that the community-center clinic plan may take advantage of this existing force and turn it back into the community for social benefit. Such a mobilization of community motives would seem to be a timely step in disease-prevention and health-conservation.

If ever there was a place where absentmindedness is dangerous to life and limb, to soul and body—that place is a hospital.

Why? Because its contents are so curiously assorted. People wander in there—the first because he has lost his money, and the next because he has lost his mind. The third needs a ham splint, the fourth needs a husband (who has deserted her). One wants a fortnight's outing, another wants false teeth and something to put between them. New caution with the cat (which gives ring-worm), new care with the cooking (which spoils digestion), new plaster jackets, and new plans of action—absolutely we can see no end to the variety of need that pours in through the hospital gates at nine and pours out again at noon with some sort of patch or plaster on it.

Presence of mind, presence of the whole resources of the best-trained intellect, we obviously need if we are to do anything for this miscellany when once it is sorted out. But the task is made ten times harder, ten times more of a Waterloo for the absentminded, by the fact that each need comes to us obscured under a blinding dust-storm of understatement, overstatement, misstatement, and omission. The poor folks have no idea what they need. They know that they are off the track—that's all.—Richard C. Cabot, "Social Service and the Art of Healing."

It is not definitely known just how the leprosy bacillus enters the body. It may be through wounds of the skin or the lining membrane of the nose and throat, and possibly it may be taken into the body with food. It is pretty definitely proven that no particular article of diet, such as fish, causes the disease. It has been thought that some insect may act as the agent which transfers the germs from sick people to well people. This is not proved. Whatever the exact mechanism in the transference of the leprosy bacillus, evidence shows that the disease is spread mainly by direct contact, and is most prevalent where people are dirty and overcrowded. There is no evidence that leprosy is hereditary. Experience has shown that segregation is the only practicable means of controlling the disease. A bill appropriating $250,000 for the purpose of establishing a national home for lepers passed the House of Representatives on May 4, 1916, and was passed by the Senate on January 25, 1917. This provides a national institution for the care and treatment of the unfortunates afflicted with this gruesome disease and solves the problem of preventing its spread in the United States. —Health News, U. S. Public Health Service.

Most of our human worries are simply excess baggage that we do not need to take along and which to carry costs us in bodily wear and tear ten times its value. It is a good plan to travel light and take things as easy as possible. Not that we should shirk either our work or our responsibilities; but we need not carry excess baggage—Kansas State Board of Health.

NEW CHILDREN'S BUILDING OF THE TUBERCULOSIS LEAGUE OF PITTSBURGH

All Types of Tuberculosis Cared for Under One Roof—Special Construction Problems Due to Hillside Site—Some Details of Arrangement—Novel Design for Porch Window

By WILLIAM CHARLES WHITE, M. D., A. E. STEWART, and PAUL F. SHUEY, Pittsburgh, Pa.

THE Tuberculosis League of Pittsburgh seven years ago outlined a plan for the economic management of health problems in large municipalities, which may be described as "a unit equipment for a unit of population." In accordance with this plan, it has just added to its group of buildings one for housing the work for children (Fig. 1).

The plot of ground on which the buildings of the organization are erected covers about ten acres (Fig. 2). This contains about four level acres fronting on a street car line and noisy school district. The rest of the property lying on its north side presents a rapid slope of about two hundred yards to the boulevard connecting the business with the residence section of the city. Building on this hillside is more or less difficult, but it presents a beautiful view characteristic of the Pittsburgh district. The Allegheny River appears in the distance, while in the near foreground the smoke from the steel mills covers the poor residence quarters and manufacturing plants of the Lawrenceville district. In the nearer foreground the Pennsylvania Railroad, with its smoking engines and trains, adds to the smoke cloud; and, nearer yet, adjoining the league property, is the broad, naked hillside, on which no building occurs. Stretching away beyond the river in the far distance are the hillsides of the Allegheny portion of the city of Pittsburgh—altogether a wide, peculiar, and ever-varying scene.

In the early days of the organization it was proposed to build upon the level part of the lot facing the street car line, and building was begun by erecting a small dispensary in this situation. Plans for further construction in this direction were prepared in accordance with the policy of the institution, to be carried out at a future date. Through the vision of Mr. Colbert A. McClure, however, the whole of the first scheme was abandoned and a new plan prepared by Messrs. Janssen and Abbott, utilizing the smoking but interesting view from the hillside as an asset not to be wasted in providing for patients who lie long months at idle rest.

With the development of the latter plan the interest of Mr. R. B. Mellon, of the board of trustees, was aroused, and all the ground between the original hospital property and Bigelow Boulevard was purchased from the Schenley estate. This boulevard, as stated above, forms the main thoroughfare between the business and the residential section of the city.

It is hoped that in the near future the Garden Club of the city will take up the work of beautifying this hillside in accordance with the pleasure which such societies gain from this type of work. It is hoped at some future time to use this slope for "rest halls" and paths for exercise for patients in the institution.

One of the chief functions of the Tuberculosis League is teaching undergraduate medical students and nurses; this made it necessary to house in this one building for children many different phases of work. It will take care of all types of tuberculosis in children—of lung, glands, bones, and meninges.

There is a ward with accessory rooms for fourteen girls on the ground floor; also a similar ward unit for boys on the floor above this. On the subbasement floor are an open-air school and toilet rooms, while its associated dining and serving rooms are on the floor above it. On this dining-room floor (Fig. 3) are an x-ray department and four isolation-rooms. On the ground floor with the girls' ward is a small complete department for operative work on cases requiring such services (Fig. 4). It will be seen that there is also a students' laboratory on the first floor. On the floor above the operating-room is an area which can be isolated in case of the development of infectious diseases, and which may be utilized for tuberculosis, provided no other infection is present in the institution. This isolation unit includes two wards and a bath-room (Fig. 5).

Among the architectural and engineering difficulties presented by building on the sloping hillside were, first, that the ground underlying it had been undermined for coal in the early days of the mining operations in this part of the state. For many years the institution drained its sewage into the abandoned coal mine, because it was impossible to get the city to provide a sewage-disposal channel.

When the first building was contemplated, careful drilling and an analysis of the foundation ground had to be made. There were, further, numerous drainage springs beneath the surface clay which overtopped the many feet of shale substance underlying it; in rainy seasons these

Fig. 1. New children's hospital building of the Tuberculosis League of Pittsburgh.

caused great slides of this clay around the building. It was found, from further experience in constructing the power and service building, which will be seen on the general plan, that it was necessary to put careful French draining not only around the building, but underneath it in lateral avenues, to protect the floors from general tendency to dampness, which came during the time of the heavy rains.

The long distance between the final site chosen

Fig. 2. Group of buildings belonging to the Tuberculosis League of Pittsburgh.

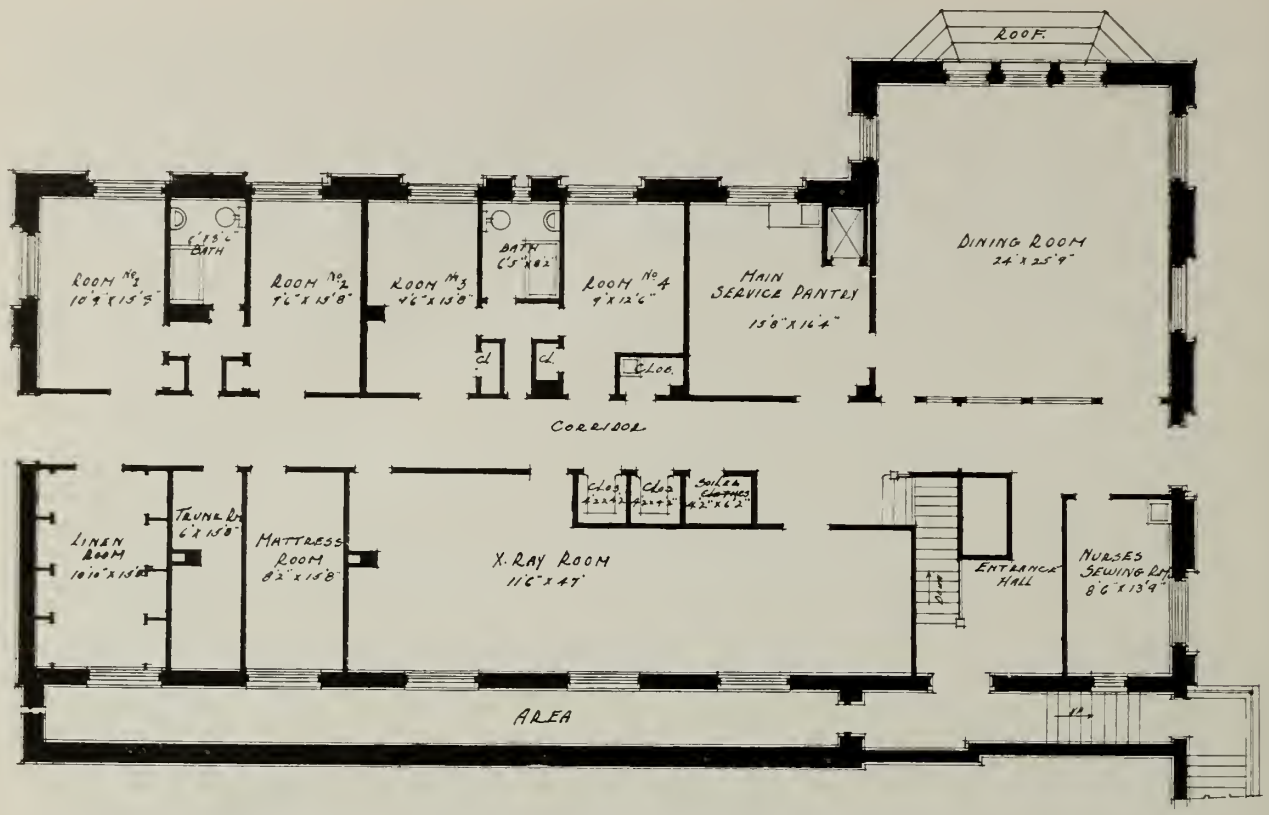


Fig. 3. Dining-room (basement) floor of the children's hospital building, with x-ray room and four isolation rooms.

for the building and the nearest sewer on the car-line street made sewage connection expensive. Finally the city was persuaded to build a new line through a projected street on the unpeopled hillside. Into this new sewer, which was built at considerable expense on account of the character of the ground and the blasting required, all the sewage of all the buildings of the institution was diverted from its former entrance into the coal mine cesspool.

The second most serious difficulty common to all buildings on hillsides was the procuring of light

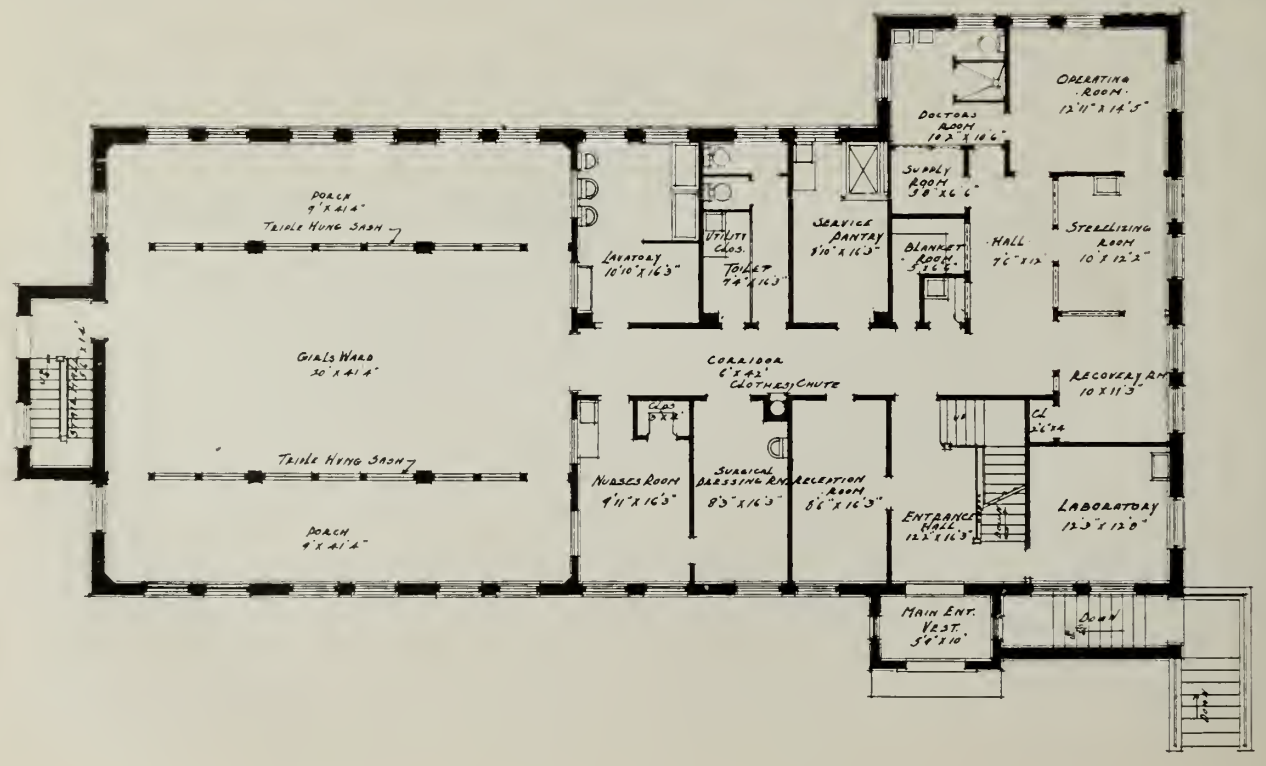


Fig. 4. First floor of the children's hospital building, containing a ward for girls and an operating department.

in the stories below the level where the slope began. Light was provided for by the areas shown in the detailed drawing of basement floor plan. These wide areas covered with grating are very satisfactory. They drain into the sewer from a cement base, and make, on account of their width, an easy method of cleaning the large windows opening on them.

Among the advantages gained by building on the hillside was that an extra floor was obtained with very little excavation on the north or lower side of the building. In this half of the building, which was really obtained in what would have been otherwise waste room, have been placed the open-air schoolroom, with its toilet-rooms, and a machinery-room. Within this portion of the

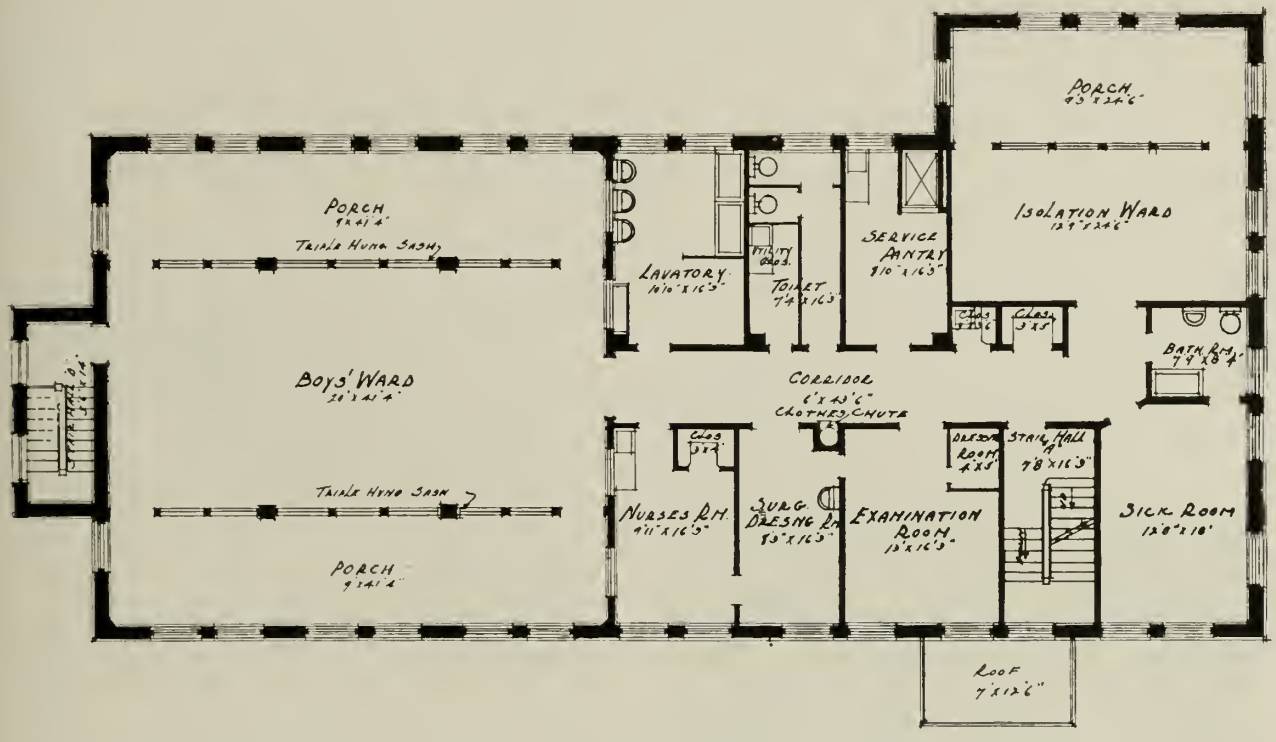


Fig. 5. Second floor of the children's hospital building, containing a ward for boys and an isolation unit.

building on its hillside there is nothing but the unexcavated shale, which would have been very expensive to remove.

Among the serious problems presented in every projected hospital is the lack of understanding, by those who have charge of the business and professional administration, of the technical knowledge required to appreciate the architectural engineering and building problems presented.

In putting up the first building of this group, it was found that without intention, but nevertheless surely, the architects, through their agents and builders, took great advantage of the ignorance of those who had the building work in charge for the league.

Perhaps nothing is so sad in institutional buildings as the failure to correlate the various factors entering the work. A hospital building is for the care of the sick. The fundamental thing in the actual care of the sick is the daily nursing and housekeeping work. Yet this fact is continuously forgotten and physicians and architects vie with each other, in the preparation of their drawings, in proposing theoretical arrangements for the construction on a plan often based upon what is done in other institutions they visit. It may safely be said the architect often knows nothing about the work involved in nursing and housekeeping, while the superintendent of nurses and the doctors know little about building; and often when the finished structure of these two groups has been passed through the hands of the builder all are unhappy in their endeavor to force on someone else fatherhood for the many mistakes.

In order to overcome the difficulty and such an unfortunate circumstance as occurred in the first draft of the plan for this building, in which a 6-foot porch was provided for a 6-foot bed, the services of a consulting architect were obtained to represent the organization. This architect, Mr. J. H. Giesey, added at once, by criticism of the plans, a number of valuable suggestions and gave his time freely to find out the desires of the institution by placing himself in the position of active administrator of the nurses' and general hospital work, which was to be carried on in the building, and intelligently to provide facilities which would have this work done with the least

amount of labor and trouble. Every article of furnishing and equipment was drawn in to scale: tables, beds, desks and cupboards, and water, steam, and gas lines were thus arranged before the building was begun.

New suggestions from frequent criticism of the plans often involved more money than was actually proposed to spend on the building, but at the same time, with the proof that the maintenance of the building during its years of usefulness would be much less in amount by the immediate expense, the permission for the expenditure was granted.

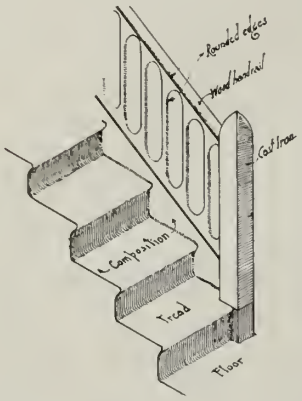


Fig. 6. Detail of stairs, showing composition tread, cast-iron newel post, wooden hand-rail, etc.

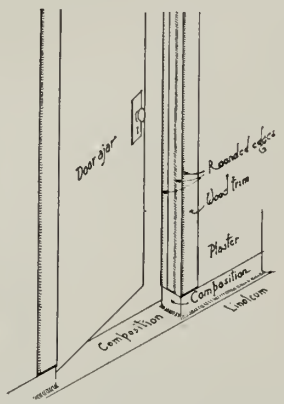


Fig. 7. Details of floor and door.

These suggestions included the utilizing of tile in the bathroom to a higher level and over more area than is usually adopted, and the extending of the floor material upward on all partitions and walls in lieu of baseboards and on all lower parts of the door trims. Wooden window sills were replaced with slate; floor colors and material were carefully chosen. The very best quality of material was used throughout the whole building. Much money was saved by having all steam, light, and water lines carried to scale, with the resulting absence of the useless turns so often found in carelessly constructed buildings.

Fig. 8. Transom porch windows.

The operation of such suggestions will be seen in the picture outlining the details of the stairs (Fig. 6) and the small sketch of the floor and door (Fig. 7).

While it is expensive in construction, we feel that we have at last arrived at the most valuable form of porch-window construction. From the hillside position of the hospital, great storms of wind, rain, and snow are of more or less frequent occurrence. Often the sick cannot rise to close their porches; often nurses and attendants are not available to close the windows quickly enough to save patient and bed and porch from wet. Through the suggestion of Mr. J. H. Giesey, an adaptation of the transom light was adopted; in this all the windows of the porch are fastened to one rod, working from a single controlling wheel which even a child can operate. The mechanism of this will be seen in Fig. 8. It has proved a very satisfactory solution of most of the difficulties connected with porch windows. There will be box screens within the windows, which can be easily removed for cleaning purposes.

Fig. 9. High and low bathtubs.

The food service of the whole building is gathered in a single room on the basement floor and connects by a food elevator with serving-rooms on the two floors above. The food is prepared in the power and service building.

The lavatories and the rooms for food distribution and nurses' work have all been arranged, as will be seen on the floor plan, to make the nurse's steps as few as possible and to give her the advantage of the large windows, thus enabling her to oversee all the area under her charge.

All the work in the building will be done by graduate nurses. There will be a superintendent of the building and head nurse for each floor. Besides these, the members of the Post-Graduate

Training School will discharge the nursing duties of the building.

One bathtub in each room has been elevated. In this way small or very ill children may be easily bathed without the hardship on the nurse of bending to the lower tub. The older and stronger children will be able to manage their ablutions in the other tub placed beside the elevated one (Fig. 9).

Separate sinks for cleaning teeth and separate toilet-rooms for the sexes and a separate room for washing the bed-pans and other dishes used for infectious material are carefully provided by cutting the available space into small separate apartments. In this way it is hoped that the possibility of infection will be reduced to a minimum.

ICE CREAM—ITS COMPOSITION, MANUFACTURE, AND VALUE

Most Useful as Food in Health and Sickness—Vast Increase in Its Use—Fats or Cream the Expensive Ingredient—Evolution in Formulas—Some Staple Recipes

By JOHN PHILLIPS STREET, Chemist, Connecticut Agricultural Experiment Station, New Haven, Conn.

IT is within the memory of all of us when ice cream was considered as a luxury, when it was obtained usually only with some difficulty, and when its consumption was hailed as a family event, as a reward (especially to the child) for duties performed, and a fitting "end of a perfect day." In recent years the consumption of ice cream has increased enormously, probably ten times as much being eaten now as there was twelve years ago. It has now taken its position as a staple food, as an every-day commodity. It is dispensed at practically every soda fountain in the country; it is common enough and sufficiently inexpensive to be served as a dessert in even unpretentious boarding-houses; and even in the slums an alleged ice cream, "hokey-pokey," is sold by itinerant vendors at a cent a helping. In sickness, both in the home and in the hospital, it is recognized as a useful, refreshing, nutritious food. A conservative estimate places the annual consumption in the United States at 100,000,000 gallons, costing the consumer at least $150,000,000.

It is well worth while, therefore, to consider the nature of this popular product, to study its composition, to investigate its purity, quality, and wholesomeness, and to indicate methods for its preparation in the institution and the home.

There has been much controversy as to whether ice cream should be considered as a food or simply as a confection. The argument for its status as a confection is not wholly without merit, as its cooling and refreshing qualities very often encourage its consumption without any thought as to the nutriment it supplies. The confection argument, however, is supported mainly by the ice-cream manufacturers and those in their employ who wish to justify, if not to excuse, the use of low-quality cream, milk, or condensed milk (whole or skimmed) in their product, with a resulting decreased milk-fat content. Granting that at times ice cream is considered by the consumer chiefly as a confection, the fact remains that its food qualities are of great importance, and that, in certain cases at least, for instance in sickness or convalescence, it is supplied not simply because of its cooling and refreshing qualities, but also because it furnishes digestible, nutritious food in an attractive form. The fear of the manufacturer that he may supply a product too rich for the consumer's welfare is a trade chimera raised to justify a practice indulged in for purely commercial purposes. Likewise the claim that an ice cream rich in milk-fat could be produced only at a price which would be prohibitive to the ordinary consumer is not borne out by the facts. A few years ago I collected a large number of samples in a Connecticut city and found that ice creams ranging from 2 to 19 percent of milk-fat were sold at the uniform price of 40 cents per quart. If the manufacturer of the 19-percent ice cream found a satisfactory profit in selling his product at 40 cents, surely an inordinate profit must have come to the hokey-pokey manufacturer selling his 2-percent ice cream at the same price. The financial benefit coming from the reduced fat content was enjoyed only by the manufacturer, not by the consumer.

My experience with ice creams ranging from 2 to 19 percent of milk-fat has been paralleled many times by other investigators, especially in states and communities in which no established fat standard is maintained. McGill in Canada, for instance, found 395 samples ranging from 2.3 to 30.3 percent fat. The establishment of standards of composition for this very diverse product, therefore, seems to be necessary both to protect the manufacturer of high-grade ice cream from unfair competition with the low-grade article,

and to give the consumer a reasonable assurance as to the quality of the product offered to him.

The earliest attempts to make a standard for ice cream were based on the composition of cream itself, which in many sections of the country is required to contain at least 18 percent of fat to be of standard quality. The use of such a cream in plain ice cream made in the normal way without fillers or binders would give a resultant product containing something over 14 percent of fat. The present government standard, therefore, requires a minimum of 14 percent in plain ice cream, and 12 percent in ice creams into which nuts or fruits have been incorporated. This standard, however, has not been accepted by all of the states, standards ranging from 6 to 18 percent of fat being in force in different parts of the country. Such a diversity of standards is unfortunate, as it entails much hardship on the manufacturer doing an interstate business (this sort of trade constantly increasing), and at the same time leaving the consumer in uncertainty as to the quality of the product he is receiving. In my opinion a standard of 18 percent is much too high, and even the government standard might be liberalized without any detriment to the consumer. The ice-cream associations individually and through their counsel have foolishly opposed any fat standard for ice cream, but a recent decision of the United States Supreme Court in favor of such a standard should convince them that ice-cream standards have come to stay, and that a properly formulated standard will be the greatest boon honest ice cream has ever received.

COMPOSITION OF ICE CREAM

While ice cream as generally understood by the consumer is simply a frozen product made from cream and sugar, with or without natural flavoring, the development of modern ice-cream manufacture has shown a utilization of many other ingredients. Instead of full cream, milk, condensed milk, condensed skimmed milk, and homogenized fats have come into wide use; starch, flour, eggs, and rennet have been used as fillers; gelatin, gum tragacanth, and "ice-cream powders" as binders; and various sorts of fruits and flavors (both natural and artificial), various bakery products, and unfortunately coal-tar dyes are employed for the different kinds of frozen products grouped under the generic name of "ice cream."

Below will be found typical analyses of plain ice cream of the old style and of the modern type, the chief difference being that in the modern product either less rich cream is used, or milk or condensed milk is used in connection with a reduced amount of cream.

	Old Style.	Modern.
Water	62.95	66.80
Cane sugar	14.20	14.20
Milk sugar	4.80	5.00
Protein	3.00	3.85
Fat	14.50	9.40
Ash	0.55	0.75
Calories per 100 gm.	218.5	176.8

While believing that a fat standard is desirable for purposes of regulating the manufacture and sale of ice cream, I recognize that the value of the non-fatty ingredients must not be overlooked. The chief source of the protein is milk or cream, whose protein is a particularly valuable form of nitrogenous food, while the carbohydrates present in the form of cane and milk sugars are of high quality and of nutritive usefulness. The fact remains, however, that commercially the milk-fat in ice cream is the most valuable constituent and is certainly the most expensive, costing from 30 to 40 cents per pound as against 5 to 10 cents for the other chief ingredients.

The following tabulation shows the relative fuel value of old-style and modern ice cream compared with various animal food products, all expressed in calories per 100 gms.

Ice cream, old style	219	Butter	811
Ice cream, modern	177	Buttermilk	37
Sirloin steak	251	Cheddar cheese	477
Beef tongue	164	Cottage cheese	113
Lamb chops	370	Oleomargarine	783
Broiled chicken	112	Condensed milk	173
Codfish, fresh	72	Sweetened condensed milk	338
Halibut	126	Beef juice	26
Shad	167	Milk	72
Trout	100	Skimmed milk	38
Round clams	48	Cream	202
Oysters	52		
Eggs	160		

TYPES OF ICE CREAM

As noted above, many diverse ingredients are used in the manufacture of ice cream at the present time, and various trade terms have come into use to describe the resultant products. While there is much lack of uniformity in the use of these various names, the following classification suggested by Morentsen is quite satisfactory. Under the various headings are given recipes for typical varieties of each class to make 10 gallons of the finished product. These should prove useful to institutions, which, from the point of view of both economy and quality, might well make their own ice-cream. Furthermore, the dietitian in the hospital, recognizing the requirements and limitations of the patient, could so modify these recipes as to meet the individual's needs.

1. *Plain ice cream* is a frozen product made

from cream and sugar, with or without a natural flavoring.

Formula for vanilla ice cream:
5 gallons 25 percent cream.
8 pounds sugar.
4 ounces vanilla extract.

2. *Nut ice cream* is a frozen product made from cream and sugar and sound, non-rancid nuts.

Formula for walnut ice cream:
5 gallons 25 percent cream.
8 pounds sugar.
4 ounces vanilla extract.
4 pounds walnut meats.

3. *Fruit ice cream* is a frozen product made from cream, sugar, and sound, clean, mature fruits.

Formula for strawberry ice cream:
5 gallons 25 percent cream.
8 pounds sugar.
½ gallon crushed strawberries.

Formula for lemon ice cream:
5 gallons 25 percent cream.
10 pounds sugar.
2 pints lemon juice.
1 pint orange juice.

4. *Bisque ice cream* is a frozen product made from cream, sugar, and bread products, marshmallows, or other confection, with or without a natural flavoring.

Formula for macaroon bisque:
5 gallons 25 percent cream.
8 pounds sugar.
4 ounces vanilla extract.
5 pounds ground macaroons.

5. *Parfait* is a frozen product made from cream, sugar, and egg yolks, with or without nuts or fruits and other natural flavoring.

Formula for walnut parfait:
4 gallons 30 percent cream.
10 dozen egg yolks.
14 pounds sugar.
4 ounces vanilla extract.
4 pounds ground walnut meats.

6. *Mousse* is frozen whipped cream to which sugar and natural flavoring have been added.

Formula for cranberry mousse:
2 gallons 30 percent cream.
4 pounds sugar.
1 quart cranberry juice.
¼ pint lemon juice.

7. *Pudding* is a frozen product made from cream or milk, with sugar, eggs, nuts and fruits, highly flavored.

Formula for Nesselrode pudding:
3 gallons 30 percent cream.
10 dozen eggs.
10 pounds sugar.
4 ounces vanilla extract.
6 pounds candied fruits.
4 pounds raisins.
4 pounds walnut meats.
4 pounds filbert meats.

8. *Aufait* is a brick cream consisting of layers of one or more kinds of ice cream with solid layers of frozen fruits.

9. *Lacto* is a product manufactured from skimmed or whole sour milk, eggs, and sugar, with or without natural flavoring.

10. *Ices* are frozen products made from water or sweet skimmed or whole milk, and sugar, with or without eggs, fruit juices, or other natural flavoring.

(*a*). *Sherbet* is an ice cream made from water, sugar, egg albumin, and natural flavoring, and frozen to the consistency of ice cream.

Formula for lemon sherbet:
6 gallons water.
2 dozen egg whites.
24 pounds sugar.
6 pints lemon juice.
1½ pints orange juice.

(*b*). *Milk sherbet* is an ice made from sweet skimmed or whole milk, with egg albumin, sugar, and natural flavoring, and frozen to the consistency of ice cream.

Formula for pineapple sherbet:
6 gallons milk.
20 pounds sugar.
2 dozen egg whites.
1 gallon pineapple pulp.
1 quart lemon juice.

(*c*). *Frappe* is an ice consisting of water, sugar, and natural flavoring, and frozen to a soft semifrozen consistency. Formula the same as for sherbet except the egg whites.

(*d*). *Punch* is a sherbet flavored with liquor, or highly flavored with fruit juices and spice.

(*e*). *Souffle* is an ice cream made from water, eggs, sugar, and flavoring material. It differs from sherbet in that the whole egg is used.

Formula for pineapple souffle:
1½ gallons water.
4 dozen eggs.
12 pounds sugar.
1 gallon grated pineapple.
1 quart lemon juice.

FACTORS AFFECTING QUALITY

To insure good quality, not only must high-grade raw materials be used, but also the product must be kept free from contamination during its manufacture and its storage, and the whole process of manufacture must be carefully supervised in order to secure proper flavor, body, texture, and swell. In this paper it is possible only to refer in the briefest possible way to these factors, which, however, are of the greatest importance to the small or institutional manufacturer as well

as to the wholesale producer. Washburn has summarized these factors as follows:

Good flavor is influenced by the fat content of the cream, by freedom from contamination, by a low cream acidity, by the addition of minute amounts of salt, and by the ripening or aging of the ice cream. *Good body* is the result of plenty of fat (but not too much), of the aging and thorough cooling of the cream, and sometimes of the use of fillers. *Fine texture* is promoted by the richness of the cream, by proper freezing methods, by the aging of the cream, and, if the product is not to be used promptly, by the use of a gelatinoid binder. *Swell* is caused by the incorporation of air into the cream, by the viscosity of the cream, by the rate of freezing, and by the speed of the agitating mechanism.

A clean cream containing about 22 percent of fat is probably the most satisfactory grade of cream for ordinary use. Preferably it should be one day old, being kept meanwhile at a low temperature. If pasteurized cream is employed it should be allowed to age before use. Homogenization increases viscosity and tends to improve the body and texture; this process, however, requires special machinery and would not be used in an institution or household. The use of condensed milk tends to better the body and increase the smoothness of the ice cream.

In the manufacture of ice cream on a large scale certain "fillers" and "binders" have come into quite general use. A filler is used to give body; a binder, to prevent coarse crystallization on holding for a considerable time. Starch, flour, eggs, and rennet are the most commonly used fillers, but their use is not always attended with success, and they are probably being used less and less. Binders, on the other hand, are very commonly used, especially where the product is shipped to a considerable distance and held for a greater or less time before use. Gelatin and gum tragacanth are the most widely used binders, either under their own names or as fancifully named "ice-cream powders."

The use of binders has caused more or less friction between manufacturers and food officials. The most common arguments against them are that they conceal inferiority and age, that they augment the swell unduly, that they encourage the use of low-grade materials, and that they make difficult adequate food control. The proponents of binders, on the other hand, urge that they prevent granulation and consequent deterioration, that they discourage the return and reusage of unsold goods, and that their use assists trade regulation. It is apparent that the arguments for the use of gelatin and similar binders are mainly of commercial importance. In the household or the institution, where the ice cream will be consumed quite soon after its manufacture, there seems to be little to be gained by the use of a binder; in the wholesale trade, where often the ice cream must be shipped considerable distances and where the conditions of sale by the retailer are such that several days may elapse before a can is completely emptied, the reasons for the use of binders are quite convincing, and probably their use would avoid more evils than their disuse would cause.

The bacteriological infection of ice cream is a very important question and is a potent source of controversy between manufacturers and food officials. It is true that considerable ice cream has been sold in the past that was unfit for human consumption, but equally as true is the statement that the great bulk of the ice cream offered to the consumer today is a clean and wholesome product. In the early days of ice cream manufacture, insanitary basements and factories totally unsuited for the purpose were all too common, but more and more do we find that the progressive ice cream manufacturer realizes that a clean, sanitary factory not only yields a better product, but is also a direct asset in his trade.

The *Journal of the Outdoor Life* has initiated a correspondence exchange for the benefit of shut-in tuberculosis sufferers. A correspondent suggests that "tuberculous patients at sanatoriums and at home might find much pleasure and relief from the tedium of their shut-in life in the playing of chess by correspondence with others similarly situated. There would be no fear of infection from the correspondent; agreeable acquaintances would be made; interesting games developed; and a healthful occupation afforded for the minds of all participating."

Having to spend an enforced rest in one of the big London public hospitals, I made friends with a dear little girl—a tuberculous patient—from the adjoining children's ward. One day, having overheard a remark, she asked me, with amusement struggling to get the ascendency over her astonishment: "Is you a nurse?" I told her I was, and I had come such a long way to nurse the soldiers. "Well, fancy you being a nurse, and all the time here I have been finking you was a lady."—Nursing Times.

Dreams pass; work remains. They tell us that not a sound has ever ceased to vibrate through space, that not a ripple has ever been lost upon the ocean. Much more is it true that not a true thought, not a pure resolve, nor a loving act has ever gone forth in vain.—F. W. Robertson.

We are all egotists in sickness and debility. An animal has been defined as "a stomach ministered to by organs;" and the greatest man comes very near this simple formula after a month or two of fever and starvation.—Oliver Wendell Holmes.

THE X-RAY DEPARTMENT OF COOK COUNTY HOSPITAL

Requirements of an Efficient X-Ray Service—Increase in Demand for Services—Fine Equipment of Enlarged Department at Cook County

By EDWARD S. BLAINE, M. D., Instructor in Roentgenology, Northwestern University Medical School; Roentgenologist to Cook County Hospital, Chicago

IT is now a generally accepted fact that a hospital of large bed-capacity requires an efficient and well-equipped x-ray department. This is beginning to be conceded even by those who formerly were wont to give up only a few square feet of space and relegate it to the basement of the building, the worst possible place for x-ray apparatus efficiency. With a daily average number of patients around the two-thousand mark, the x-ray service must be carefully planned, must have ample floor-space, a proper location in the building, and an arrangement of rooms permitting economical handling of patients and materials. This, of course, also holds true in regard to hospitals of smaller capacity. In either case, the patient must be cared for with least inconvenience and without sacrificing any procedure that would tend to assist in obtaining the most knowledge possible by the x-ray method. Equipment is to be desired which will allow greatest ease in handling the patients or which makes the technic simpler.

For many years the x-ray department of Cook County Hospital did not receive from the governing board the attention that it deserved. Appropriations were not made for new equipment, and supplies were difficult to obtain. With this handicap, the department struggled along as best it could, in a tiny, cramped space, with little or no convenience for this special branch of hospital work. Fig. 1 is a plan of the rooms of the old department. In these small quarters were to be found antiquated coils, worn-out x-ray tubes, and a few articles which were in a musty or in an unusable condition. None but fracture cases and a few bone lesions were examined because of the lack of proper equipment. Deep roentgenography was practically impossible. It was apparent that new equipment had to be secured, and, lacking an appropriation for its purchase, an arrangement was made with the Victor Electric Company for the use of such pieces of x-ray apparatus as were necessary to carry on the work properly. By this means only was it possible to give the hospital patients the benefit of x-ray examinations of some of the medical cases in addition to the few surgical ones. Roentgenoscopy of the thorax in pulmonary and cardiac lesions and the study of gastro-intestinal cases was introduced in the winter of 1913, and x-ray therapy, both deep and superficial, was instituted shortly afterward. As soon as this took place, the number of patients sent for x-ray service trebled. The amount of work increased so much that it was necessary to add to the personnel of the department, which then consisted only of a roentgenologist and one assistant. A clerk was added, and later a plate-developer was engaged for the dark-room work. Soon afterward a trained nurse and an orderly was assigned to the department, and a medical photographer was added to the personnel. The work of the department soon showed a great improvement in quality and it was soon noticed that, the better the work of the department became, the greater was the demand for its service. At present the average number of patients examined a month is more than a thousand. About nine hundred of these are roentgenographic cases, from one to twelve plates being made in each examination. An average of eighteen hundred plates a month, or about twenty-two thousand per year, are used. Roentgenoscopic cases average close to three hundred a month, part gastro-intestinal and part pulmonary and cardiac lesions. X-ray treatments number approximately twenty-four hundred during the year. These include superficial and deep therapy for skin lesions, benign and malignant tumors, etc.

With the opening of the new hospital building in 1914 the Roentgen department finally was given some of the consideration that was its due. In Fig. 2, the plan of the new x-ray department, it will be seen that it contains approximately five thousand square feet of floor-space, divided into fourteen rooms grouped on both sides of a large corridor, which runs east and west. The rooms on the south side of this corridor are assigned to administration, consultation, plate exhibition, a waiting-room for women, a toilet-room, a room for plate-storage, and the plate-developing room. Entering the waiting-room (Fig. 3), one finds benches for patients, and back of a railing, which extends across the room, space is given to four large illuminating-racks which provide means for the exhibition of several hundred roentgenograms showing normal and pathological conditions. Each of these racks is lighted by three Type P Cooper-Hewitt lamps, with automatic starting device. These are placed vertically, one in each of three sections. While this arrangement does not give an entirely even distribution of illumination, it is found quite sufficient if the denser x-plates are placed over the central and more strongly lighted part, and the thinner ones to the

outside of this area. This evens up the illumination by partially diffusing the light.

A consultation room 12 by 28 feet is equipped with an illuminating-box which is 20 feet long by 21 inches high. This is also equipped with Cooper-Hewitt mercury vapor-lamps. Four tubes are used, and these are placed in a single line. A Victor x-ray stereoscope with tungsten bulb lighting is mounted on a special rack at one end of the room. In this room is also shelving for the filing of the more recently made roentgenograms, the shelf-capacity being about eight thousand plates. Card index, filing cabinets, and typewriter are also located in this room. It is here that the x-ray diagnosis or readings are made by the roentgenologist. From the consultation room one enters the library, in which is a large bookcase containing x-ray literature, books, journals, etc. There are also a writing-table and a mounted skeleton. This room provides accommodation for visiting physicians and surgeons engaged in postgraduate x-ray work. Off the library is the roentgenologist's study. This room contains, besides desk, chairs, table, and bookcase, shelf-space for the plate-filing for about sixteen thousand plates.

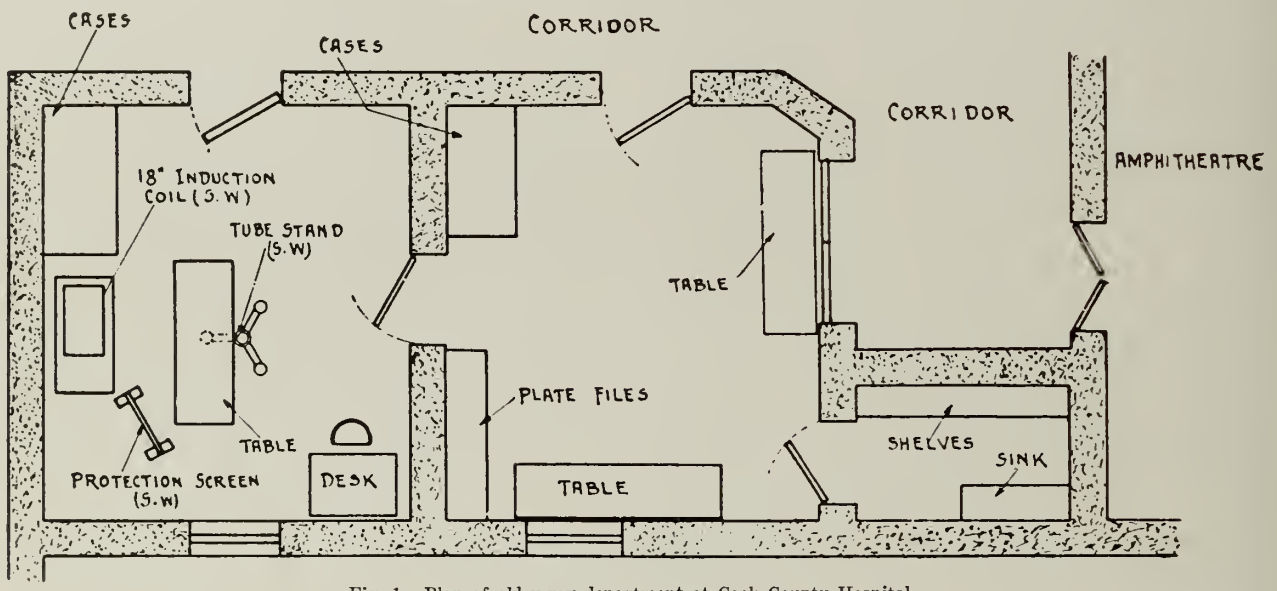
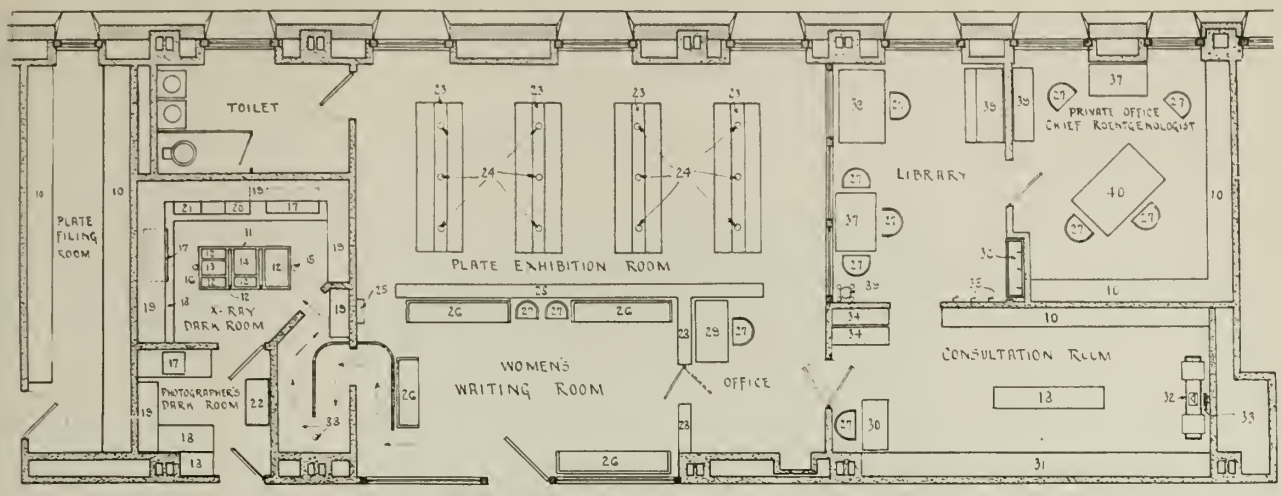


Fig. 1. Plan of old x-ray department at Cook County Hospital.

From the women's waiting-room a doorless zigzag entrance leads by three turns into the x-ray plate-developing room. A large stone tank, a modified Bowen type (Fig. 4) is placed in the center of the room. This allows the worker to approach all four sides of the tank. The tank is set 18 inches high from the floor on a heavy pipe frame; this is to allow easy draining of the several compartments into large earthenware crocks placed underneath. This is a convenience when one desires to reduce, by precipitation, the silver which is contained in the used solutions, often a goodly amount and well worth getting. An overflow permits a continuous flow of water around three sides of both the developing and the hypo baths. There are three taps, for cold water, warm water, and ice-water, respectively, so that any degree of solution-temperature can be obtained at any time of year; thus, in summer the ice-water is used to bring the cold water—sometimes more than 80 degrees—down to 65 degrees, and in winter the warm water is used to bring the cold water—often as low as 50 degrees—up to 65 degrees. In this manner 65 degrees can be had throughout the year. Two large sinks and abundant table-space are found in three sides of this room, and there is also an equal amount of shelving above. The overhead lighting consists of an inverted semi-direct bowl which has three different lights inside, each having a separate switch, an 8-c. p. ruby, a 16-c. p. ruby, and a 40-watt white. Each of these lights can be turned on independently of the other by hanging push-button switches. Using the 8-c. p. ruby light, it is safe to handle the bare exposed x-ray plates without fogging. With this lighting there is considerable room-illumination. An electric tray rocker is conveniently placed, but practically never used because of the success of the tank method. Photochemical supplies are stored on shelving in a recess in the entry-way. Next to the plate-developing room is the photographic dark-room; this room contains a sink and conveniences for the photographer, who does his work without interfering with or disturbing the x-ray plate-developer. This allows the medical photographer to develop photo-plates, make enlargements, etc., independent of the x-ray plate-developing.

The rooms on the north side of the main corridor are used for roentgenoscopy, roentgenography, and roentgenotherapy. The roentgenoscopic



SOUTH OF CORRIDOR

10. Plate-filing shelves.
11. Developing tank.
12. Water compartment.
13. Compartment for developer.
14. Compartment for hypo.
15. Inlet and mixing chamber.
16. Outlet.
17. Sink.
18. Work table.
19. Supply shelves.
20. Tray developer.
21. Table with Victor tray-rocker.
22. Supply case.
23. Plate racks for exhibiting plates.
24. Cooper-Hewitt lamps for illuminating plate racks.
25. Clock.
26. Benches.
27. Chairs.
28. Rail.
29. Clerk's desk.
30. Typist's desk.
31. Inspection frame, illuminated by Cooper-Hewitt lamps, with plate files underneath.
32. Victor stereoscope, with plate files underneath.
33. Electric fan.
34. Card index.
35. Coat hooks.
36. Clothes locker.
37. Reference table.
38. Assistant roentgenologist's desk.
39. Bookcase.
40. Chief roentgenologist's desk.
88. Dim red light.
89. Skeleton on stand.

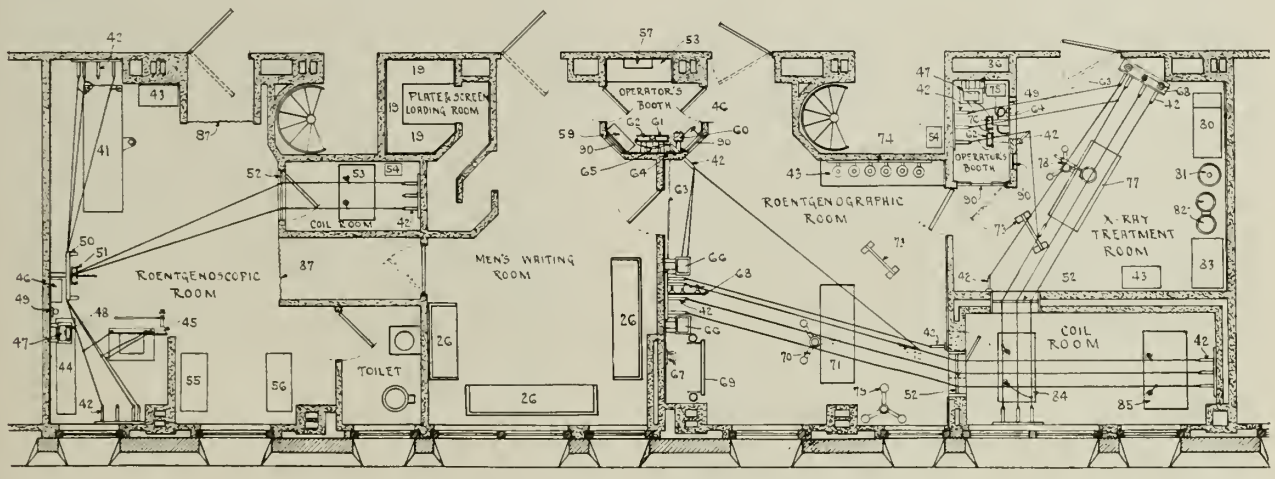


Fig. 2. Plan of new x-ray department at Cook County Hospital.

NORTH OF CORRIDOR

19. Supply shelves.
26. Benches.
41. Victor horizontal roentgenoscope.
42. Insulators.
43. Utility table.
44. Table for lateral recumbent position.
45. Victor vertical roentgenoscope, arranged for orthodiagraphy.
46. Rheostat for interrupterless transformer mounted on wall.
47. Victor Coolidge transformer on insulating shelf.
48. Victor Coolidge ammeter mounted beneath insulating shelf.
49. Victor Coolidge regulator.
50. Victor Coolidge high-tension switch.
51. Milliampere meter mounted on switch.
52. Glass insulator.
53. Victor 2 K.W. interrupterless transformer.
54. Victor Coolidge rotary converter.
55. Bausch & Lomb projector.
56. Bausch & Lomb photomicrograph.
57. Service box containing main switches for entire department.
58. Lead-lined plate box for unexposed plates.
59. Lead-lined plate box for exposed plates.
60. Victor Coolidge battery rheostat.
61. Victor Coolidge battery ammeter.
62. Milliampere meter mounted on wall.
63. Cord from high-tension terminal board to spark-gap indicator and vacuum reducer knob.
64. Spark-gap indicator and vacuum reducer knob.
65. Victor teleflasher.
66. Storage battery on insulated shelf, with special switch arranged so that one battery is on charge while the other is in use.
67. Charging board for storage batteries.
68. High-tension terminal board.
69. Vertical stereoscopic shift.
70. Victor No. 3 radiographic stand.
71. Victor No. 1 radiographic table.
72. Aerial insulators for connecting milliammeter into high-tension line.
73. X-ray protection screen for convenience of visiting roentgenologists.
74. X-ray tube rack.
75. Rheostat for interrupterless transformer on truck.
76. Victor Coolidge ammeter mounted on wall.
77. Treatment table.
78. Victor No. 4 treatment stand.
79. Extra x-ray tube stand, with broad focus Coolidge tube for stomach work.
80. Cystoscopic table.
81. Sterile water tank.
82. Basin.
83. Instrument cabinet.
84. Victor 10 K.V.A. interrupterless transformer.
85. Victor Wantz special interrupterless transformer.
86. Victor therapy flasher.
87. Light-proof curtain.
90. Lead-glass window.

room (Fig. 5) contains, in addition to the roentgenoscopes, a large camera, an enlarging easel, a photomicrographic apparatus, and a large balopticon for opaque, microscopic, and regular lantern-slide projection, for use and service in medical and surgical clinics of the hospital.

The roentgenoscopic equipment consists of a closed-core A. C. Victor transformer placed in a separate room to eliminate noise, connected by overhead high-tension wires, covered to eliminate brush discharge, to a two-way switch mounted on the wall between horizontal and vertical roentgenoscopes. Both of these instruments are used with fine focus point Coolidge tubes. The Coolidge or cathode control and its energizing apparatus are mounted on the wall below the two-way switch. The x-light as well as the overhead blue light are both actuated by a magnetic switch the action of which is controlled by the examiner by a finger push-button which is mounted on the shutter control-arm of each roentgenoscope. This form of x-light control does away with the old and unhandy foot-switch with its flexible cord which lies on the floor. Foot-switches are too easily stepped on by patients or visiting physicians, thus setting the tube in action, and the resulting damage to the tube is often cause for grief to the roentgenologist. The rheostat control of the secondary current is mounted on the side wall between the instruments, at a convenient height, and is accessible from either one. Meters for both the secondary or tube milliamperage and Coolidge filament amperage are mounted above the rheostat. The Coolidge current supply is obtained by use of a small D. C.-A. C. rotary and a small transformer.

Fig. 3. Waiting room, x-ray department, with illuminating racks for the exhibition of roentgenograms in the background.

The vertical roentgenoscope is equipped with an orthodiagraphic attachment which permits independent screen excursion in heart examinations, and both the vertical and horizontal shutter controls are easily held in the hollow of the hand

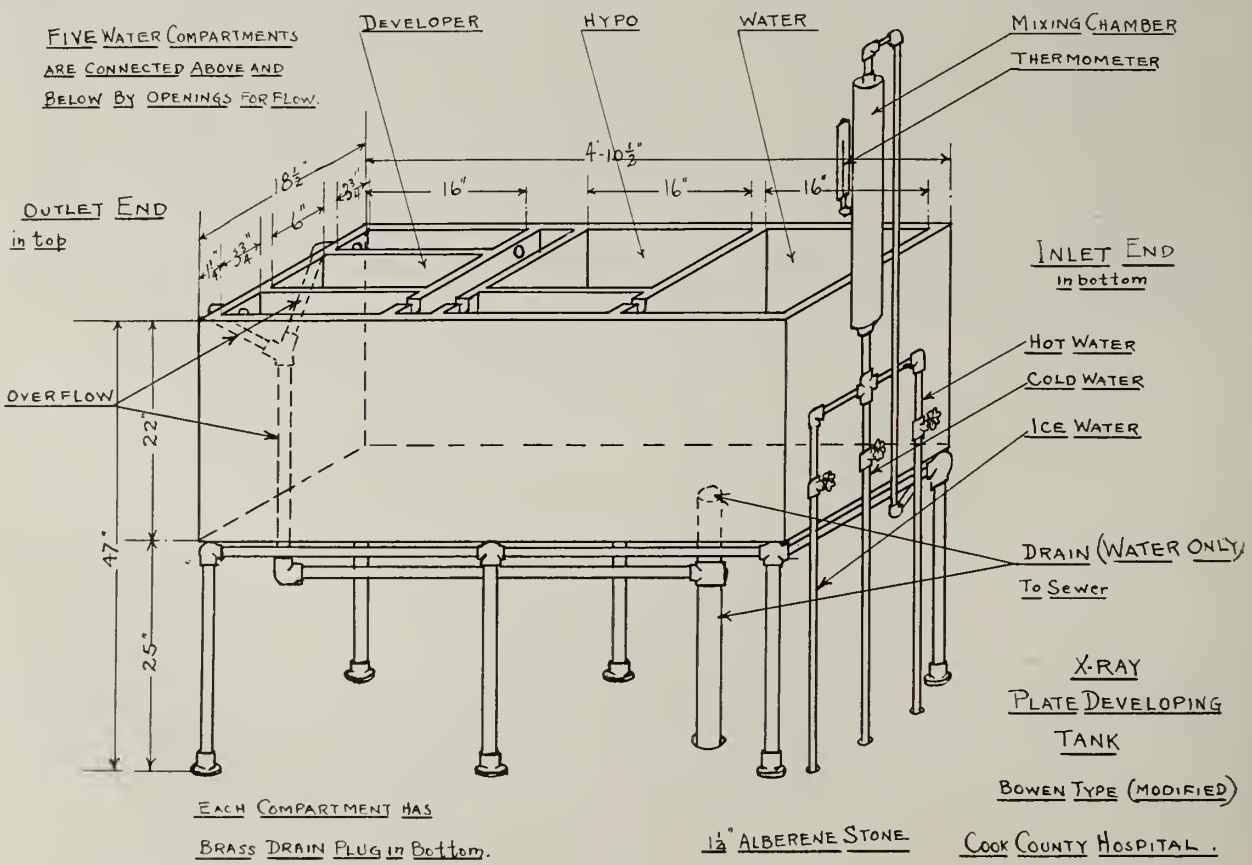


Fig. 4. Stone plate developing tank of a modified Bowen type.

close to the finger push-button previously mentioned. Thus the x-light, the overhead or dimmed room light, and the shutter openings on the x-ray screen are all managed with the left hand in one position. The front of this scope is free of platform or other obstruction excepting for a movable step for small patients. This permits the regular hospital carts to be wheeled directly in front of the instrument and behind the screen without taking the patient off the cart, a great convenience in the case of patients too weak to move. A long, narrow, high table on large casters is used in demonstrating the change of fluid level in hydrothorax or pyopneumothorax, or in cavities. In such cases the patient is examined in the horizontal posture, either supine or right or left lateral recumbent, etc. Heart orthodiagrams are made with grease pencil on sheets of clear celluloid (12 by 16). The diagram is later traced and transferred to the x-ray report, which is then

Fig. 5. Roentgenoscopic room.

attached to the patient's history. A toilet opens off the roentgenoscopic room, a necessity in some cases when the patient is unable to retain the barium clysma in colon examination.

A second waiting-room, for male patients, is located between the roentgenoscopic and roentgenographic rooms. Off this waiting-room is a zigzag entrance to a small lead-lined room for plate- and screen-loading. No water or solutions being in this room, there is no chance of spoiling the delicate surface of the intensifying screens. Here, too, is kept the supply of x-ray plates.

The operator's booth (Fig. 6) is entered from either the waiting-room or the roentgenographic room. In this booth is placed a large switchboard containing the main electric current leads for the entire x-ray department. The service-wires leading from this main switchboard to the roentgenoscopic, the roentgenographic, and the roentgenotherapeutic transformers are placed in metal conduits under the floor in a 5-foot pipe space. Exposures are made from within the booth by a push-button control which actuates a magnetic switch. This switch has various time-commutators, which are rapidly and easily changed as desired. The Coolidge tube spark-gap resistance also is regulated and controlled from within this room. The entire room is lead-lined for the protection of the operator. Lead plate-boxes are used, one for the unexposed and one for the exposed plates. Rheostat and meters are conveniently mounted. The spark-gap is tested and measured by the operator within the booth, who looks through a lead-glass window into the roentgenographic room.

On account of the fluctuation of the hospital

Fig. 6. Operator's booth.

current supply, it was found necessary to use battery current for the Coolidge tube used for the roentgenographic work, and an arrangement (Fig. 7) is installed using two 5-cell (10-volt) batteries, which are placed on an insulated shelf. This current is non-fluctuating and perfectly steady, which keeps the tube at a constant back-up resistance. One of the batteries is being slowly charged while the other is in use, so that a fully charged battery is always ready. The charging is done without having to move the batteries from the shelf. A charging-board is mounted on the wall and the batteries placed at a height of 5 feet above the floor, which allows the specific gravity of the battery solution to be read by hydrometer

with ease at eye level. In the roentgenographic room is a Victor tube-stand of large size. A Victor stereo-tilting-top table is also in use. Overhead wiring with trolley reels permits easy handling of the tube connections. Chairs, utility tables, metal plates, Kelly-Koett eye localizer, and other accessories are also found in this room. Lead screens which can be moved about the room allow visiting doctors and assistants to dodge behind this protection during actual exposures. Tube racks are mounted on the walls. The main spark-gap of a large Victor x-ray transformer, located in a generator room near by is placed on the wall above the batteries and charging board. This spark-gap is in direct line and view of the

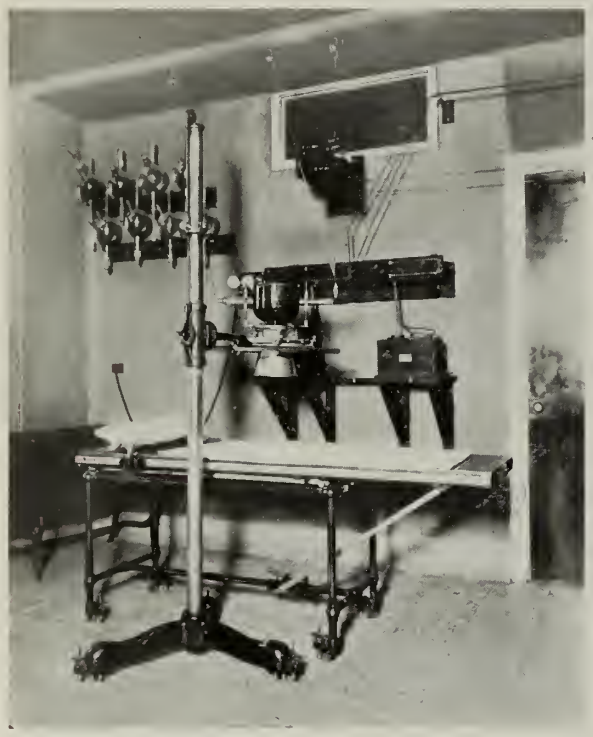


Fig. 7. Five-cell (10-volt) batteries for Coolidge tube cathode.

lead-glass window of the operator's booth, from where it is easily read.

The roentgenographic room is sufficiently large and roomy to allow regular hospital beds and carts to be rolled or wheeled directly under the tube-stand. This does away with the lifting and moving of patients who are in pain or who cannot be easily handled. In this manner, also, patients in restraint can be safely examined.

The roentgenotherapeutic room (Fig. 8) has a similar arrangement of operator's booth, lead-lined for protection, with lead-glass windows, and this, too, is equipped with all necessary meters and controls. A small D.C. rotary supplies A.C. current for the Coolidge transformer and cathode filament. Prior to the present exclusive use of the Coolidge tube in roentgenotherapy, a water-cooled gas tube was very successfully used. With the large number of treatments given the water-cooling was accomplished by a Victor circulating pump, which was placed on a well-insulated shelf above the tube stand. A small electric motor turned a rotating blade pump which provided a continuous stream of cold water directly behind the target. The heat was carried off as fast as was necessary to keep the tube vacuum at a constant degree.

A low table, 20 by 24 inches by 6 feet 6 inches, with a rather deep mattress, is used for the patient to lie on during treatments, some of which take more than half an hour; this provides comfort for the patient. A Victor treatment tube-stand allows close approximation (5 inches) of the tube target to skin surface. Lead shields and specially cut sheets of the same material, together with leather, aluminum, and copper filters and other convenient accessories, are in use. Ample

Fig. 8. Roentgenotherapeutic room.

consideration for safety in treatment is given. This room is used for roentgen therapy during each morning. In the afternoon the room is given over to the cystoscopist for ureteropyelography. The room is provided with proper conveniences for this work. A special operating-table, wash-basins, sterile water-tank, instrument-cabinet, etc., permit proper handling of cases which require opaque-solution injection of ureters, etc. It is but a step from this room into the roentgenographic room for the plate exposure. In this manner the patients are subjected to least danger in handling and moving between the time of injection and making of the plate.

All the flooring in the rooms in this group on the north side of the corridor is of tile, which makes it easy to move the heavy tube-stands and other large instruments, beds, etc., around the room when desired. On the opposite side of the

corridor the rooms have a composition flooring, which has a less severe surface to walk upon.

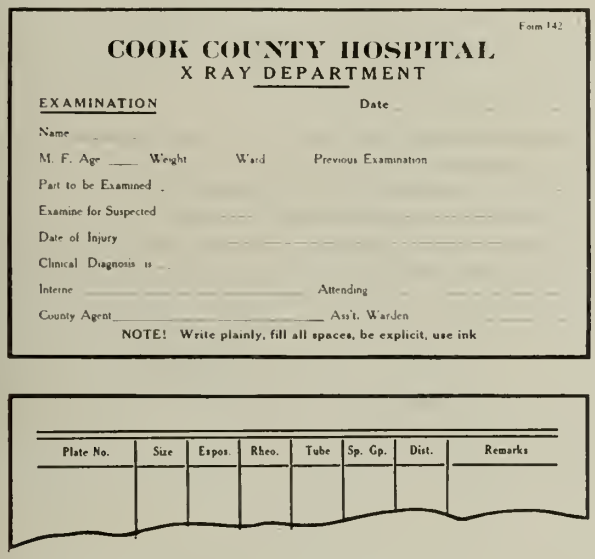
In the routine of the department the following division of the work is in force:

8 to 10, roentgen therapy.
8 to 12, roentgenography and plate-developing.
1 to 4, roentgenography and plate-developing.
9 to 11, roentgen plate diagnosis, reports, consultations.
11 to 12, or 1, roentgenoscopy.
2 to 4, consultations, demonstrations, etc., pyelo-ureterography.

The personnel of the department consists of the following:

1. A roentgenologist, who is chief or director of this branch of the hospital work. He must be a graduate in medicine with special training in x-ray diagnosis. His duties include the making of x-ray interpretations, reports of diagnoses, supervision of the department, etc. He is responsible for the accuracy of the work.

2. A radiographer, whose duties are those of technician in x-plate exposure, care of the x-ray


Form 142

COOK COUNTY HOSPITAL
X RAY DEPARTMENT

EXAMINATION Date

Name

M. F. Age ___ Weight Ward Previous Examination

Part to be Examined

Examine for Suspected

Date of Injury

Clinical Diagnosis is

Interne Attending

County Agent Ass't. Warden

NOTE! Write plainly, fill all spaces, be explicit, use ink

Plate No.	Size	Expos.	Rheo.	Tube	Sp. Gp.	Dist.	Remarks

Fig. 9. Card used as permanent record of examination by x-ray department; obverse and reverse.

apparatus and instruments, such as motors, tubes, etc.

3. A dark-room man, whose duties include the developing of all x-ray plates, making developing solutions, loading x-ray plates in envelopes, and intensifying screens, etc.

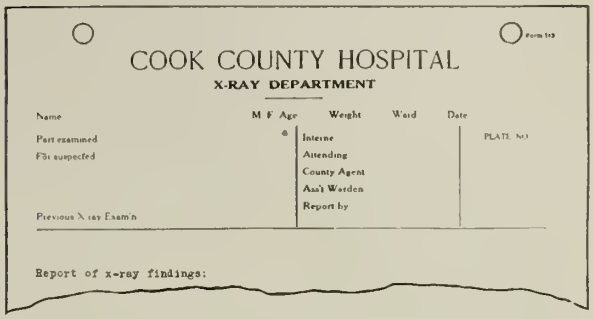
4. A typist or clerk, who records the diagnosis, cares for filing of plates, and does general clerical work.

5. A trained nurse, who assists in handling and arranging the patients, particularly the women and children.

6. An orderly, who helps around the department in various ways.

7. A medical photographer, who does this class of work for the members of the medical and surgical staff, such as lantern-slides, prints, reductions, photomicrographs, etc.

Patients who are to be examined are given cards 3 by 5 inches in their wards by the interns on the instructions of the attending physician or surgeon. Each is in the form of a requisition and is filed as a record of the case examined. On the reverse side are spaces for noting the plate number and the technic used in the exposure.


COOK COUNTY HOSPITAL
X-RAY DEPARTMENT

Name M F Age Weight Ward Date

Part examined
Dx suspected

Interne
Attending
County Agent
Ass't Warden
Report by

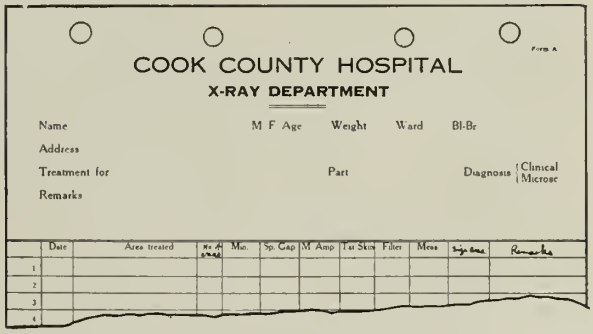
PLATE NO.

Previous X ray Exam'n

Report of x-ray findings:

Fig. 10. Heading of report of x-ray diagnosis. The sheet is 8½ by 11 inches.

Reports of x-ray diagnoses in typewriting on a form 8½ by 11 inches are made the morning following the examination whenever possible. A cross-index is made on a card 3 by 5 inches according to the condition present. The patient's name does not appear on this card; on it are noted the anatomical part, age of patient, disease or pathological condition, the patient's number, with any other special notation. If more than one condition is present on a given roentgenogram, separate cards are made for each, and these are filed separately. The size of the plate is noted by letter, C for 8 by 10, D for 10 by 12, E for 11 by 14, and F for 14 by 17; thus 2779-C is an 8 by 10 plate, while 39521-F is a 14 by 17 size. A light manilla envelope is used for filing the plates, on which is a printed space for patient's number, anatomical part, pathological condition, and date of examination.


Form A

COOK COUNTY HOSPITAL
X-RAY DEPARTMENT

Name M F Age Weight Ward Bl-Br

Address

Treatment for Part Diagnosis {Clinical / Microsc

Remarks

	Date	Area treated	No. of Exp.	Mas.	Sp. Gap	M. Amp	Tot Skin	Filter	Mens	Sp. Gap	Remarks
1											
2											
3											
4											

Fig. 11. Heading of record for therapeutic cases. The sheet is 8½ by 11 inches, and bears, on the reverse, anatomical outlines showing an anterior and a posterior figure.

The record for therapeutic cases is on a sheet 8½ by 11 inches, with necessary spaces for accurate notation of technic used. On the reverse

side of this sheet are anatomical outlines (rubber stamp) showing an anterior and a posterior figure. On these diagrams are indicated the particular area or areas which were exposed during treatment.

The question of service of x-ray apparatus is always interesting to those engaged in hospital work, and therefore, in concluding this description, it seems only fair to relate the experience with the apparatus furnished by the Victor Electric Company. During the three years of service the x-ray transformers have been in daily use. This service was not intermittent, as is usual in this class of work, but practically continuous. From 8 a. m. often to 4 p. m. the running switch was seldom pulled out. As the apparatus was not specially built for this extraordinary use and as only the ordinary amount of care and attention are given, this record of service speaks well indeed for the designers. The other special pieces of x-ray apparatus have been of the greatest value in making the work easier and more accurate and have, in general, proved to be great time-savers in the routine work of the x-ray department.

A GERMAN RED CROSS HOSPITAL TRAIN

Many Hospital Trains Fitted Out by Private Philanthropy and Donated to the Red Cross—Completeness of Equipment and Organization

By C. E. WRIGHT, New York

THE present war has brought out some advancements in the care of wounded, one of the most useful being the highly organized and completely equipped hospital trains with which the German Government transports her wounded and the wounded of the enemy who fall into her hands. At present there are more than fifty of these hospital trains in constant use, bringing the wounded in from the field of battle to the large hospitals in the big centers. Some of these trains were fitted out by the government, but over half of them are the results of private philanthropy, being built and fitted out by wealthy German citizens and turned over to the Red Cross Society as gifts. They vary in length from thirty to fifty cars, and in cost from $25,000 to $50,000. Each train, as it is turned over to the Red Cross Society, passes out of the donor's hands entirely; he has nothing further to say about its management thereafter, but the train is always known by the donor's name, and in many cases the donor continues to pay all of the running expenses, staff salaries and supply bills, which run about $5,000 to $6,000 a month.

The accompanying illustrations show the Friedlander Red Cross train, which was donated by Baron von Friedlander-Fuld, a wealthy coal merchant of Berlin. It is probably the most complete and finest equipped train of its kind ever built. The baron refused to say what it cost, but a man in that business estimated it at about $54,000. It consists of forty cars, each car about forty feet long. Twenty-nine cars are for wounded soldiers, two for wounded officers; then there are an operating car, dispensary car, two store cars, kitchen, two cars for heating train by steam, car for nurses and one for doctors, car for the men employees, cooks, firemen, etc.

Fig. 1 shows one of the beds taken out of the train and used as a stretcher. It also shows the chief surgeon and the military officer in command of the train.

The dispensary car (Fig. 2) is a drug store with a large stock of every medicine used in modern practice. The two heating cars each contain a big boiler to develop steam to heat the train. One is placed near the rear and one near the middle, and steam is also taken from the locomotive at the front end of the train. The store cars are ordinary freight cars divided into compartments for the various stores. One contains food and is placed next to the kitchen car. The car for the male employees is fitted up with built-in bunks like a crew's quarters on a ship. The four doctors and the four trained nurses have each half of an extra large car with beds like our sleepers.

Fig. 3 shows a section of the operating car. This car is carried near the end of the train, next to the doctors' car. As the illustration shows, it is equipped with every possible device which science can devise. Like all operating rooms, it is painted a pure white. In addition to a gas light, there is a powerful electric light operated by batteries and giving the best possible light for operations. In serious cases which cannot wait until the base hospitals are reached, operations are performed in this car. Two of the German surgeons and two nurses are shown in this picture.

Fig. 4 shows the exterior of the train. Each hospital car has its male nurse. Besides the red cross on the side, each car also has a red cross on the roof to protect it from aeroplane fire.

Fig. 5 shows the quarters of the trained nurses. Their beds are built in like our sleeper bunks

German Red Cross hospital train. Fig. 1—One of the beds taken out of the train for use as a stretcher. Fig. 2—Dispensary car. Fig. 3—Section of the operating car. Fig. 4—Exterior of the train. Fig. 5—Quarters of the trained nurses. Fig. 6—Interior of the kitchen car. Fig. 7—Interior of a hospital car. Fig. 8—Another view of a hospital car.

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at the right. Behind the big curtain are wash basins.

Fig. 6 shows the interior of the kitchen car, which is equipped with stove, steam cookers, tables and other culinary equipment. The supply car is seen beyond.

Fig. 7 shows the interior of one of the hospital cars. This car contains ten cots, six on one side and four on the other. The enclosed space in the center of the car on the left side contains wash rooms and toilets. The beds are hung on springs and can be taken out on the field and used as stretchers. Each bed has a complete individual outfit, which includes a sponge, cup, glass, toothbrush, etc. The cars all have a gas lighting system, and in addition there are oil lanterns for outside use. The cars are also equipped with candle lanterns for emergency use. Individual outfits of socks, slippers, and nightshirts are laid out on each cot. Straps and ropes are placed above the cots in such position that the wounded can use them to raise themselves up by. The car also contains a barrel of sterilized water, buckets for carrying food, and other appurtenances to assist in the care of the wounded without loss of time.

Another illustration (Fig. 8) shows another view of a hospital car interior. Note the telephone on the wall just above the water barrel. Also note the outfit laid out on the bed—slippers, pair of wool socks, steam hot-water bottle, cotton nightshirt, flannel nightshirt, handkerchief, toothbrush, glass and bottle of mouth wash. Each bed has a pillow, mattress, rubber sheet, two cotton sheets, and two blankets.

Hospital cars for wounded officers are almost the same as those above described for the wounded soldiers, except that they are equipped with a few little added refinements, such as curtains before each bed.

All hospital cars are connected with the operating car by a telephone system so that the doctor and trained nurse on duty can be called at any time. These trains, of course, travel very slowly, making only five or six miles an hour, special care being given to running without any sudden starts or stops. The staff consists of four doctors, four trained nurses, thirty-seven male nurses, one for each hospital car and six extra, three cooks and two firemen. Each male nurse sleeps in his own car on a folding cot, which is placed in the aisle.

TENT HOSPITAL FOR PARALYZED CHILDREN

Fordham Hospital, New York, Creates Inexpensive Quarters to Treat Victims of Infantile Paralysis—Equipment Negligible—Results Reassuring

By SAMUEL W. BOORSTEIN, M. D., Instructor in Orthopedic Surgery, Fordham University Medical School; Adjunct Visiting Orthopedic Surgeon, Montefiore Home and Hospital; Chief of Orthopedic Department, Fordham Hospital O. P. D.; Clinical Assistant, Orthopedic Department, Vanderbilt Clinic, Columbia University, New York City.

THROUGH the united efforts of the Board of Health, medical and lay papers and the After-Care Committee of Infantile Paralysis Cases, one could expect that sufferers from the epidemic of 1916 and probably also from the previous epidemics will report regularly for treatments for a long time—from two to three years. According to the report of the After-Care Committee, approximately five thousand children were not able to be treated by private physicians and had to receive treatment in hospitals and clinics. Thus the hospitals of this city had to meet the difficult problem.

There was no need of making special preparation in the orthopedic hospitals for the after-care of these patients. These hospitals have always had such patients since 1907 and have used the best methods of treatment. With the increase of the number of patients they had only to increase the number of assistants and to add extra rooms. The general hospitals, on the contrary, while they had orthopedic clinics, had limited facilities for such prolonged treatments and had to make special provisions to meet the necessities, as it was safe to assume that they would get many of these patients for treatment. In some hospitals, where an extra room or two could be spared, these were simply shifted for that clinic. As is usually the case where the hospitals are crowded and no adequate room can be spared, the children in some hospitals were therefore so crowded that they could not get the proper treatments and proper ventilation.

At Fordham Hospital we had the same problem. There was no adequate room in the hospital to be spared for administering treatment to these patients, but we had plenty of ground facing the beautiful Bronx Park. We put up a large tent on the lawn (Fig. 1). The size of the tent is 16 by 30 feet. It has a wooden floor one foot high from the ground. Of course, one may use tarpaulin instead of a wooden floor. The tent has a roof and

fly. For heating there are four rows of 2-inch steam pipes surrounding three walls of the tent (Fig. 2). The side opposite the entrance has a space without pipes so that it may be used as another entrance. The length of the steam pipes for the entire tent is 256 feet. The height of the tent at the center is 12 feet, while at the sides it is 6 feet from the floor, giving ample space. Where steam cannot be obtained stoves may be used in their stead.

Fig. 1. The tent for the treatment of anterior poliomyelitis at Fordham Hospital, as seen from a distance.

In this large tent we fixed up along the full length of one side a desk, and massage and examining tables; there was room for four tables. At the side opposite the entrance we have a large mirror for exercises and a special ladder and electrical apparatus. In a second corner we have special toys, large and small, for exercising the younger children and for making the time pleasanter for the older children. We have also many toys suspended from the ceiling for exercises of the upper extremities (Fig. 2). On one of the poles we have an exerciser used in the ordinary gymnasium. Along the other wall there are benches and chairs for the mothers and small chairs for the children. There is also a basin with water and a washstand. We found that the tent could hold fifty children and twenty adults comfortably.

Fig. 2. Corner of tent, showing heating facilities and children exercising on toys.

The location of the tent outside the hospital helped also to avoid the interference of these small patients while passing through the regular dispensary rooms. The simplicity of the outfit proves that it can be fixed up in any general hospital on short notice, provided, of course, there is spare room on the hospital grounds.

This tent was put up in September, so we had the use of it the entire winter. We found it very easy to heat. It requires a small increase for the hospital plant to warm it up, and the sun shining on the canvas helps to warm it very quickly. During the entire winter we missed only about five treatments owing to the strong wind then prevailing, especially as the hospital is surrounded by parks and is located on a high level. We really feared the wind more than the cold. Of course, one can provide wind-breakers. The inside of the tent is extremely cheerful and has an excellent effect on the children. They enjoy running around and playing with each other and with the toys (Figs. 3 and 4). These children, as is known, need a great deal of heat for the limbs and we found it warm enough in the tent to administer the treatments. The children had to take their wraps off as soon as they entered, and were not permitted to put them on until they were ready to leave. Very few of the children caught cold. There is a little difficulty in ventilating the tent, but when the door opposite the entrance is opened at the top, the air is cleared very quickly. A

Fig. 3. One corner inside the tent, showing the general appearance of the patients.

small fan may be used at the opening to circulate the air.

The advantage of such a tent in summer is obvious. The children may play on the grass until time for their treatments. These cripples are usually confined to their rooms and do not get enough fresh air either because their mothers are afraid to have anyone know of the children's deformities or because they are too busy to accompany the children. Thus when the children are brought to the clinic they enjoy the fresh air for two or three hours. In summer we intend to have these children dressed in tights only and have them sit on the grass or on a sheet of tarpaulin and have their limbs warmed up by the sun; they will afterward be called in for treatments. The tent will be uncovered on all sides. We cannot tell as yet how it will work, but it sounds plausible.

Fig. 4. Nearer view of the inside of the tent at the end of treatments.

The use of the tent for the last eight months leads me to mention the following advantages:

1. It is very simple and can be put up on short notice in any hospital.
2. Where there are many children, several

such tents can be put up to avoid congestion and danger of contagion, and there is less danger of a panic.

3. The inside of a tent is cheerful and has an excellent effect on the children.

4. While waiting for treatment or while being treated, they get plenty of fresh air, which they need very badly.

5. There is less danger of catching cold than in a hot, suffocating waiting room, which is found in every dispensary.

6. In summer the children are in the open air.

7. Sun treatment can be administered at the same time that massage and exercises are given.

8. The tent can be fixed up near every playground in the parks; thus the children can receive the treatments and exercises if the physician desires to use that method of exercising.

I wish to express my sincerest thanks to Dr. Brannan, president of Bellevue and Allied Hospitals, and Dr. O'Hanlon, general superintendent, who have been extremely kind to the department and have devoted a great deal of time and energy to fit up the tent with all the required needs. I also express my thanks to Mr. P. J. Cawley, engineer of the hospital, for his many kind suggestions.

OKLAHOMA HOSPITAL, TULSA, OKLA.

Modern Features of a Hospital Built for Service, Not Show, in a Western Industrial Community—Green Finish Used in Operating-Room—Inclines Instead of Staircases

By FRED S. CLINTON, M. D., F. A. C. S., President, Tulsa, Okla.

THE Oklahoma Hospital is planned and built to suit the needs and service of the modern requirements of an active industrial community. Its lines are simple and its construction is substantial. It is fireproof, and its compactness and completeness will furnish a type for the moderate-sized hospitals needed in localities where service without show is sought.

Fig. 1. Oklahoma Hospital, Tulsa, Okla. Note simple lines and substantial construction.

The hospital is centrally located on a high corner lot overlooking the city and country in every direction, yet accessible to the street and interurban railways.

The accompanying floor plans give a comprehensive outline, and a close study will suggest valuable ideas for actual utilization of all available space. The use of inclines or ramps instead of elevators or stairs will appeal to many when constant service, economy of operation and upkeep as well as lack of noise and dirt are considered.

All four floors are above ground. All rooms have outside exposure. All doors open into rooms, have checks and transoms. The latter open from top.

Each floor is complete within itself, having private, semiprivate, bath, toilet, and rest-rooms. The kitchenette has a refuse receptacle, refrigerator, warming oven, steam table, hot plates, tray shelves, dish rack, kitchen sink, cabinet for dishes, etc. Each floor has a bedpan sterilizer, utensil racks, etc. All private rooms are finished in different tints or colors. Children's rooms are made attractive with nursery decorations.

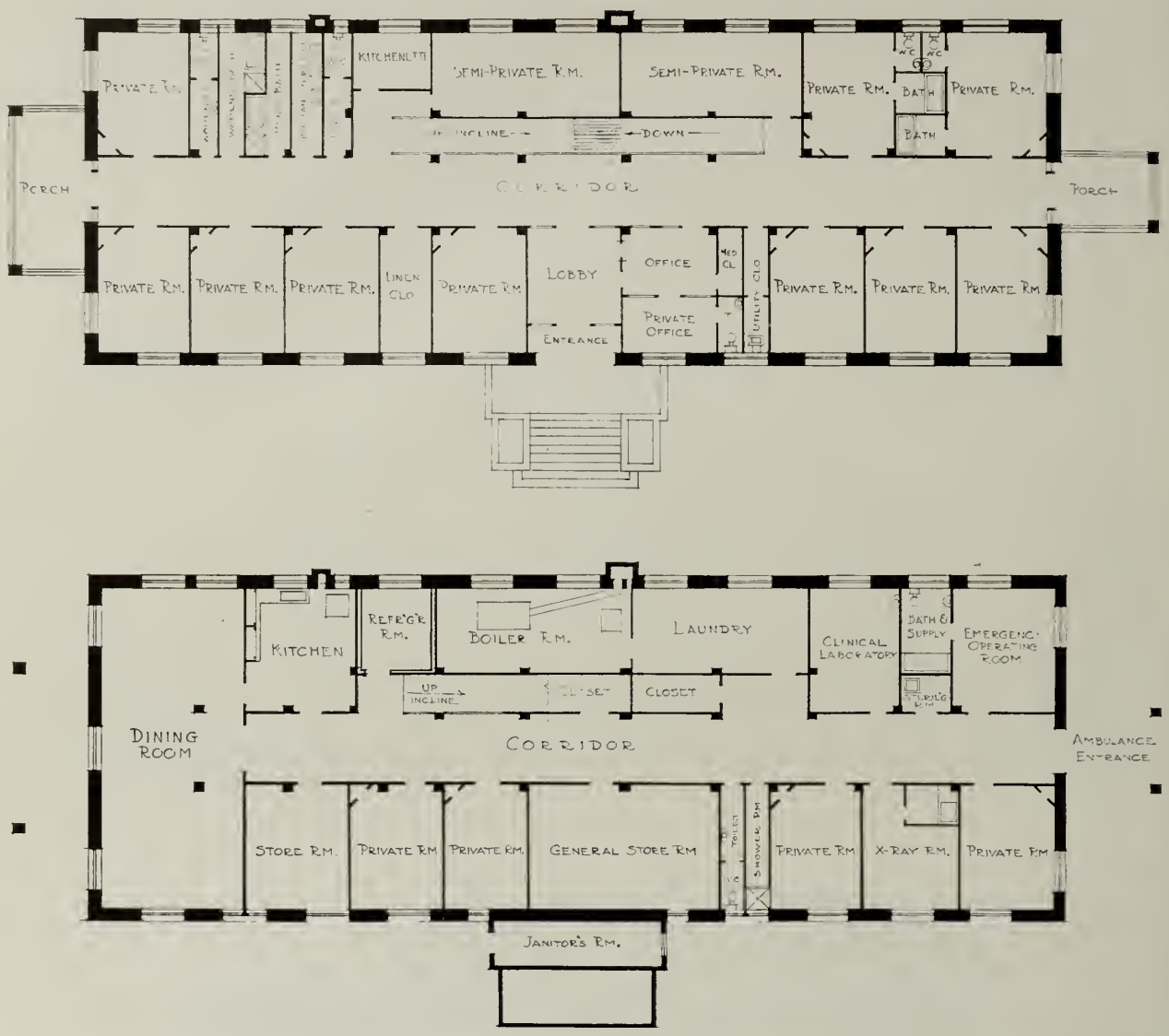

Fig. 2. Ground-floor and first-floor plans of Oklahoma Hospital. The emergency operating-room is conveniently located next the ambulance entrance on the ground floor.

All patients' rooms are supplied with ample receptacles for fans, hot pads, lights, etc. No ceiling lights are used except in toilets, kitchenette, rest room, corridors, etc. All rooms, corridors, etc., are finished with sanitary base.

The emergency operating-room at ambulance entrance facilitates handling of severely injured, poisoned, or other suitable patients with least disturbance to the household or to formal operations elsewhere. The x-ray and pathological laboratories are also on the ground floor. The engine room has the boilers, circulating hot-water heater, vacuum cleaner, incinerator, high-pressure boiler, etc., completely separated from the remainder of the floor by a solid wall and one room so as to lessen heat and noise. The hospital has low-pressure steam heat, electric lights, sanitary plumbing, vacuum cleaner, silent signal system, inclines, intercommunicating telephones, circulating hot water and other modern conveniences. The inclines for a hospital of this size are a success, and, while the principle is not new, its application in this instance will so popularize it that every complete book on hospital construction hereafter will contain a description of this feature.

The operating-rooms on the fourth floor, with their modern appointments, are practically above fly and dust line, and are completely separated from the other parts of the hospital, which prevents confusion and promotes the comfort of patient and friends. These rooms can be mechanically cleansed and flooded with sunlight. They are supplied with Hartley-Murray-Verdi operating-tables with oil pump lift and other accessories. The Bartlett Noshade Lites are supplemented by others, and, in the event the city current is temporarily cut off, a large storage battery, capable of furnishing seven-hour service to each room, is installed. This valuable double

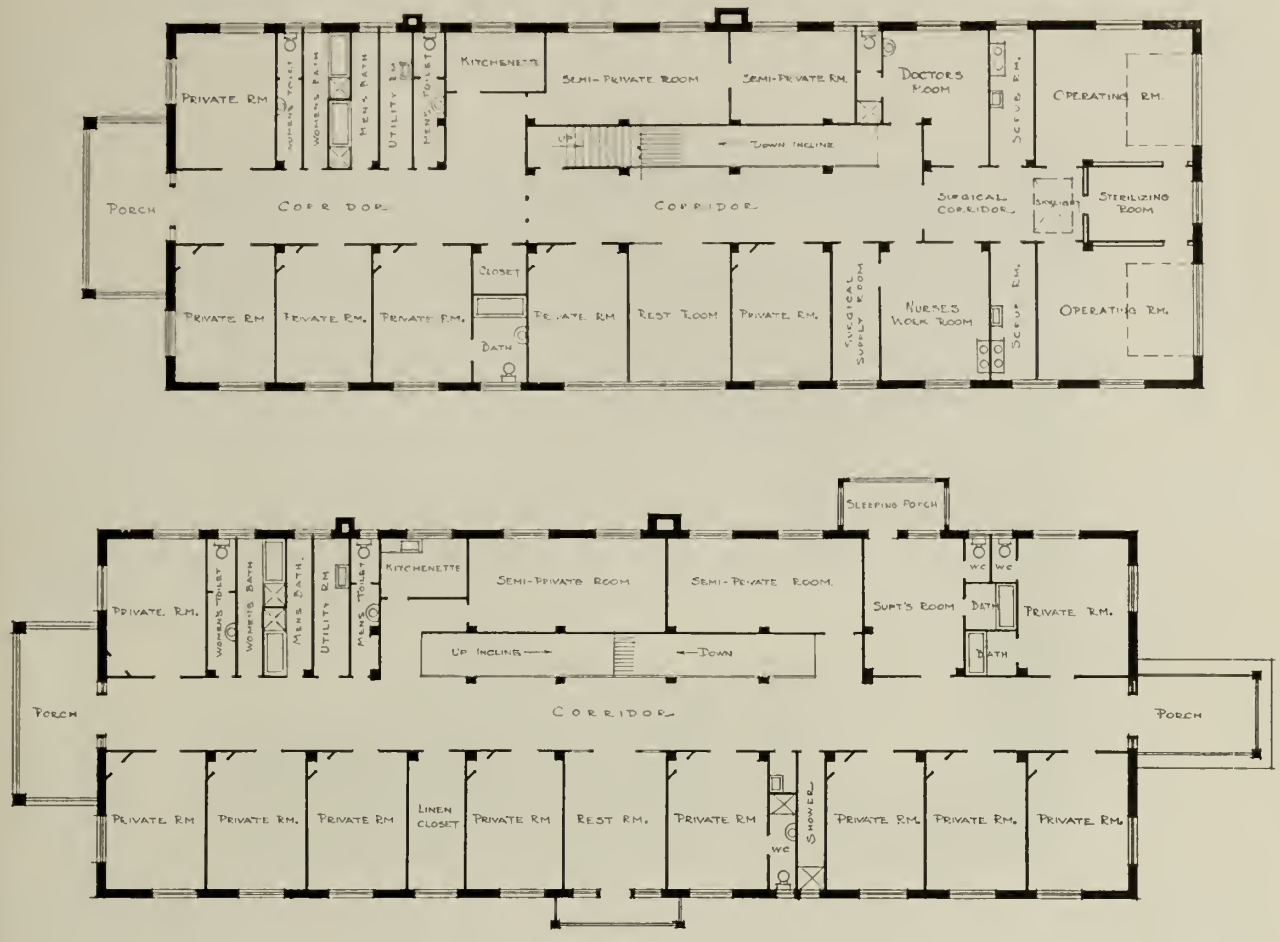

Fig. 3. Second-floor and third-floor plans of Oklahoma Hospital. Each floor is complete in itself.

service is a new feature used first by the Oklahoma Hospital.

One operating-room is finished in standard white. The other is finished in green because I believe that it has a more tranquilizing effect on the patient and is easier on the operator's eyes. I also use black operating-room sheets and towels because the black more sharply defines by contrast the field of operation and is less irritating to eyes.

Fig. 4. Part of corridor and the inclines. The inclines work any time of day or night, can be kept clean, and never get out of order. The side lights on incline permit ventilation when needed in semiprivate rooms. The ceiling lights are separately wired, so one or all may be used at once. The silent signal over the door shows red through the transom to the occupant of bed, to the nurse in the hall, and at the switchboard in the office. This arrangement does away with one fixture by side of bed and enables the office to check time and place of service if necessary.

I believe that a properly appointed and regulated hospital is the medical and surgical clearing-house of the community and ought to meet the exacting demands of a discriminating people who seek service and appreciate the modern measures available, not only to study disease and injuries and to make correct diagnoses, but also to treat them scientifically.

Construction on the Oklahoma Hospital was begun in February, 1916, and completed and occupied August 20, 1916. The organization consists of myself as president and Miss H. C. C. Ziegler as superintendent, who has been associated with me in such capacity for over ten years. She has two graduate assistants, one graduate operating-room nurse, seventeen pupil nurses, a cashier and book-keeper, housekeeper, janitors and two cooks and one laundress.

The hospital at present maintains an open staff. The x-ray and clinical pathological laboratory are

at present maintained by cooperation with visiting doctors and the superintendent.

Every thinking person must recognize that the particular training-ground for the physician and surgeon is the hospital. The intelligent care of sick people is a community problem and obligation, and with proper guidance and cooperation may be satisfactorily solved in any city where enough unselfish and unprejudiced people will join in the work.

Dr. S. Weir Mitchell says: "Modern medicine in its most successful aspect is only made possible by that partnership between educated nurses and educated doctors which insures the fullest and most competent use of the opportunities with which science has endowed art."

Fig. 5. A little team-work; following the doctor's orders to get patient to bed at once, give some medicine, and get a quick report and record of her condition. Observe also the simple and serviceable shade, adjustable from top or bottom, the bed which may be lowered or elevated at either end, the movable light with adjustable shade, which may be used for reading, examining patient, or even placed under bed out of sight. The patient has hold of silent signal.

IMMANUEL DEACONESS SURGICAL HOSPITAL, OMAHA, NEB.

One of the Hospitals Under the Control of the Augustana Synod—Set on a Hill, It Needs No Ventilating Fan

By OLOF Z. CERVIN, Architect, Rock Island, Ill.

THE Immanuel Deaconess Surgical Hospital was completed in 1909. Up to that time medical and surgical cases were in one building, erected about thirty years ago. As it is intended to continue with buildings on a group plan, it was necessary to conform as much as possible to the design of the first structure, with its towers, bays, and turrets, and fourteen feet high ceilings. The new surgical wing was modernized as much as possible, and the stories reduced by raising the first floor and lowering the cornice, but not enough to disturb the eye, as the buildings are separated about one hundred feet, and the ground slopes away from the new building.

The construction is reinforced concrete and tile floors, vitrified brick exterior, and slate roof. Partitions are two-inch solid plaster. Floors of halls, kitchen, sanitaries, and operating department are terrazzo. Maple floors are used in the rooms and wards.

The sanitaries contain wash basin, bath tub, water closets, nurses' slop sink, and laundry tray, divided off by low partitions. In late hospitals under the control of the same synod (the Augustana) and designed by the same architect, these compartments have been expanded and separate rooms used for men's and women's toilets, for the bath tub, and for the nurses' special fixtures, making four rooms, to the comfort and convenience of all. Another improvement is in the arrangement

of elevator and stairs, which here are placed in the open, matching the old medical building. These are now set back from the hall and closed off by doors.

Fig. 1. Immanuel Deaconess Hospital, Omaha, Neb. General view.

Sun porches are provided to the south, but are not yet glazed in.

A large ventilator on the roof connects with all

Fig. 2. Immanuel Deaconess Hospital, Omaha, Neb. First floor plan.

1. Entrance porch.
2. Public hall.
3. Bookkeeper.
4. Vault.
5. Superintendent.
6. Doctors' consultation room.
7. Interns.
8. Intern.
9. Children's ward (7 beds).
10. Sun room.
11. North porch.
12. Ward (4 beds).
13. Morgue.
14. Drug room.
15. Sanitary.
16. Patients' hall.
17. Clothes chute.
18. Linen closet.
19. Reception room.
20. Coal room.
21. Kitchen.
22. Cold pantry.
23. Refrigerator.
24. Warm pantry.
25. Supplies.
26. Help's dining room.
27. Doctors' dining room.
28. Service hall.
29. Elevator.

rooms by a system of ducts. As the institution is on one of Omaha's highest and breeziest bluffs, this has proved sufficient without a fan. All provisions were made for installing same, but it was found unnecessary.

Fig. 3. Immanuel Deaconess Hospital, Omaha, Neb. Second floor plan.

1. Sun porch.
2. Hall.
3. Ward (7 beds).
4. Private room.
5. Private room.
6. Private room.
7. Ward (5 beds).
8. North porch.
9. Ward (6 beds).
10. Private room.
11. Sanitary.
12. Lockers for patients.
13. Nurses' station.
14. Linen closet.
15. Private room.
16. Ward (2 beds).
17. Sanitary.
18. Diet kitchen.
19. Fire escape.
20. Private room.
21. Private room.
22. Ward (2 beds).
23. Elevator.

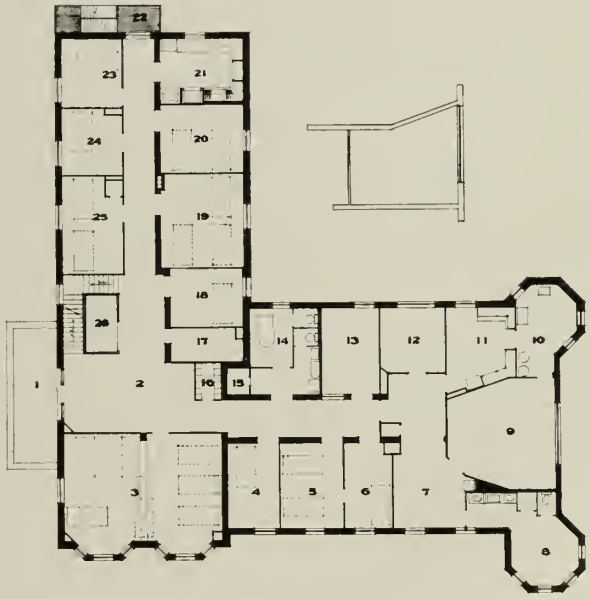

Fig. 4. Immanuel Deaconess Hospital, Omaha, Neb. Third floor plan.

1. Open porch.
2. Hall.
3. Ward (7 beds).
4. Private room.
5. Ward (2 beds).
6. Private room.
7. Etherizing room.
8. Doctors' dressing room.
9. Main operating room.
10. Sterilization room.
11. Sisters' room.
12. Small operating room.
13. Eye, ear, nose, and throat.
14. Sanitary.
15. Clothes chute.
16. Lockers.
17. Linen room.
18. Private room.
19. Ward (3 beds).
20. Ward (2 beds).
21. Diet kitchen.
22. Fire escape.
23. Private room.
24. Private room.
25. Ward (2 beds).
26. Elevator.

Heating is by the Moline system of vapor heating. The boiler plant is located on the other side of the street, to take care of all buildings.

There are sixty-one beds and two rooms for in-

terns. Some rooms look small on the plans, and are small as most hospitals go, but the demand for them has been great. Each room has an air exhaust duct.

The operating room has no skylight. The large window to the north was extended up and the ceiling raised and inclined back, as shown on the third-floor plan. The resulting light has given the best satisfaction to the surgeons. The window is double glazed in copper sash and frame.

The nurses' station is in the angle of the hall. Silent call was installed throughout.

The pathological laboratory is located in west end of third story.

STANDARDIZATION OF HOSPITALS—COMMENT ON THE CLASSIFICATION*

Leading Thinkers in the Hospital World Commend Plan to Study Standards—Some Think the Classification Offered Should Be Further Elaborated—Suggestions for Improvements

By JOHN A. HORNSBY, M. D., Chicago, with the Collaboration of Various Expert Specialists

IT was the intention to follow our introductory paper last month into the actual business of classification of the hospitals, with the equipment, facilities and personnel developed for each class, but it has been deemed desirable to set out upon our discussion in another way.

When the classification as published last month was devised, a copy was sent to a number of the foremost hospital people in the country, with the request that they comment on the proposed classification in order that we might start off with the feeling that the classification which we were about to study had already the approval or at least the favorable comment of the thinkers in the profession.

The responses to the letter that accompanied the classification have been so general and generous that we feel we would be making a mistake not to set this comment before the readers of The Modern Hospital in order that they too might approach the subject with mature deliberation. This month, therefore, we are contenting ourselves with the publication of as many letters as the space will permit; next month we shall take up the University or School Hospitals and we shall follow our paper with other comment.

FROM W. C. BRAISTED, SURGEON GENERAL U. S. NAVY

Your plan to classify the hospitals of this country appeals to me very strongly. It is a huge undertaking, but will inevitably do a great deal of good. The classification will not only be a great convenience, but will tend to increase efficiency, as was the case in the classification of our medical schools.

I quite agree with you that the basis of rating is not size, but adequacy. A small-town hospital with all modern improvements might easily deserve a higher mark than a larger one in a big center, though its medical and surgical staff were not composed of famous men, provided its equipment and administration were of a high order.

Perhaps, in addition to number of beds, you could include such details as:

Number of operating rooms
X-ray room—permanent operator
Laboratory—permanent staff
Sanitation
- garbage disposal
- screening—complete
- heating
- lighting
- ventilation
- water supply

Fire protection
Capacity for expansion
- Temporary—increase of beds
- Permanent—adding pavilions

Such a basis of classification would go far toward educating the country and small-town population in the matter of modern hospital requirements, and so would do invaluable missionary work, for it is the public that pays for hospitals and needs instruction as to what constitutes a good one.

FROM A. H. GLENNON, ACTING SURGEON GENERAL, PUBLIC HEALTH SERVICE

The standardization of hospitals is greatly needed. It is to be hoped that the day is not far distant when we can make arrangements to collect uniform statistical data of hospitals and allied institutions, both morbidity data and administrative data.

The classification you have made looks to me to be very satisfactory. In the item "County Farms and Poor Houses," I wondered whether you included the entire institution or simply referred to hospitals connected with such institutions. Closely allied, at least for the purpose for which the classification is made, are the penal institutions. I am not sure that you have made provision for the hospitals and hospital facilities of the penal institutions. I think they should be included.

By the item "Infectious Disease Hospitals," I presume you have in mind the ordinary hospital for contagious diseases. I am not sure whether "Infectious Disease" or "Contagious Disease" would be the better term. Many infectious diseases are ordinarily treated in general hospitals. The diseases treated in the hospitals you had in mind are, I think, ordinarily the contagious diseases.

FROM S. S. GOLDWATER, SUPERINTENDENT MOUNT SINAI HOSPITAL, NEW YORK

You have omitted from your list of special hospitals

*This is the second in a series of papers on "Standardization of Hospitals;" next month will appear an article on the University or School Hospitals. Next month, also, names of collaborators will be published.

(perhaps for good and sufficient reasons) the following special classes:

Psychopathic hospitals (in contradistinction to insane asylums)
Neurological hospitals
Hospitals for paralytics
Hospitals for epileptics
Orthopedic hospitals
Hospitals for chronics
Hospitals for inebriates
Hospitals for drug addicts
Hospitals and homes for convalescents
Eye, ear, nose, and throat hospitals
Municipal emergency stations
Hospitals for women
Hospitals for the treatment of diseases of the stomach (rare)

While the lines cross in many instances, hospitals of a distinctive character, belonging in these several groups, can be found in various parts of the country.

FROM HENRY M. HURD, BALTIMORE, MARYLAND

Many thanks for your kind letter with the scheme for a hospital classification. It seems to me very perfect and complete, and I have really no suggestions to make in reference to it beyond the suggestion that perhaps it might be well to differentiate the large hospitals with special endowments, which are able to control their admissions wholly. They may be included in general hospitals, semi-public, but it seems to me they stand on rather a different footing from many of the other public hospitals. I refer to such hospitals as the Massachusetts General Hospital, the Peter Bent Brigham Hospital, the New York Hospital, the Pennsylvania Hospital, Philadelphia, and St. Luke's Hospital, Chicago, and of course many others whose names will occur to you. Most of these are not primary teaching hospitals, nor are they compelled to receive patients. Some of them are wholly charitable; that is to say, they have no private rooms; others have private rooms from which they receive income, and devote a portion of their income to charitable work. I am not quite sure just how to classify them, but it would seem rather desirable to make a special heading of them if you can. The scheme for the papers is admirable, and I hope it may do some good.

FROM JOSEPH B. HOWLAND, ASSISTANT ADMINISTRATOR MASSACHUSETTS GENERAL HOSPITAL, BOSTON

I have yours of the 10th, with tentative classification of hospitals for the purpose of standardization. I have looked over your list carefully and have no suggestions for change. It seems to me that you have grouped these as well as the large variety of hospitals in this country can be grouped under a reasonable number of headings. I might perhaps offer the suggestion that you make a further division of the Children's Hospital into Children's Hospitals and Infants' Hospitals; as in Boston and New York, at least, there are separate institutions for each.

FROM RENWICK R. ROSS, SUPERINTENDENT BUFFALO GENERAL HOSPITAL

I have your letter of recent date containing the classification as suggested by you for hospitals. The only thing that I can suggest in it is that some hospitals would have to be classified under several headings. Yet I do not see how you can well have it otherwise, no matter what classification you adopt; for example, this hospital is a university and teaching hospital. It is also a hospital of 350 beds. This would place it under two headings.

I would suggest the classification be made somewhere for incorporated institutions—that is, institutions conducted under the state laws governing charities in the different states. I would also make a classification for private hospitals, or those which are run by individuals for profit.

FROM THOMAS HOWELL, SUPERINTENDENT THE SOCIETY OF THE NEW YORK HOSPITAL

I think your classification for hospitals for purposes of standardization is a comprehensive one, including about everything in the way of a hospital that there is.

I note that you provide a heading for state hospitals for feeble-minded, blind, deaf and dumb, etc., but do not have a heading for private hospitals for the same class. I do not find that you have included hospitals for chronics and incurables. We have in New York at least two institutions of this class which are entitled to classification.

If some of the private homes for adults and children have hospital facilities it might possibly be well to include them. Convalescent homes are not hospitals, but some of them like to be so regarded, and the number of homes of this description is increasing very rapidly.

FROM FRED T. MURPHY, DEPARTMENT OF SURGERY, WASHINGTON UNIVERSITY MEDICAL SCHOOL, ST. LOUIS

It seems to me that your outline for the study of hospitals is very comprehensive. I should feel, however, that in a survey of the whole hospital situation great care should be taken not to make too great allowances for the small hospitals. By and large, it is in these small hospitals that the majority of patients are treated and it is in them that the younger surgeons do their work.

It has been accepted, I think, without question, that for these small units it was not necessary to provide adequate laboratories, etc. Now, my own feeling would be that it was just as essential that these smaller units be safeguarded as the larger.

Of course in such a survey a sharp distinction will be made between that which is actually practiced and that which is professed. This was especially brought home to me by a visit recently to one of the state institutions in Missouri, where on paper and in the office it seemed as if the best of scientific care was being given to the patients. As a matter of fact, when you actually investigated, you found that practically nothing was being done.

FROM R. O. BEARD, UNIVERSITY OF MINNESOTA MEDICAL SCHOOL

I have your letter enclosing copy of your proposed classification of hospitals. It strikes me very favorably. The only suggestion I would make would be the possible addition under the special hospital group of detention hospitals as adjuncts to state hospitals for the insane.

As I understand it, this is merely a skeleton classification into which you propose to build the data upon which something like standardization may be done. I am very much interested.

Although prevention of sickness is the first aim of infant mortality campaigns, nevertheless there should be hospital accommodations for those cases which cannot be cared for properly at home. As a city grows, a hospital of this sort sooner or later becomes a necessity. In almost any hospital it is possible to turn over to the exclusive use of children some of the beds and facilities so that, in case of emergency, there will be some place where sick babies may be given adequate care.—Kansas State Board of Health.

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Contributors, subscribers, and readers will find important information on advertising page 34.

National Organizations and Their Programs

The great value of annual conventions is that they bring people together. Formal papers are necessary pegs on which to hang discussions. It is unfortunate when the pegs cover the whole wall!

Among the innumerable national associations of all kinds in the United States, over forty are entirely, or mainly, concerned with the problems of health or disease. Naturally, these bodies vary in size, in the character of their organization, and in the manner in which their annual conventions are arranged. A member of the American Hospital Association attended the meeting of the American Public Health Association in Cincinnati last autumn, and was much impressed with the manner in which that convention was conducted. This association has a larger total membership than the American Hospital Association, but the number of persons registered at the Cincinnati meeting was no greater than at many recent hospital gatherings. Previous to the public health meeting, the organization had been worked out in a number of sections. Members interested in a particular phase of health work would form a section, with the authorization of the central governing body of the association and under the rules laid down by the by-laws. A standing committee of this section, subject to these rules, would prepare a program for its share in the meeting. At the convention, one general session was held each day, the rule being that no sectional meetings were allowed at the same time as a general session. Of the three daily periods, morning, afternoon, evening, one was always left free for recreation, informal conferences, or visits to points of interest in the locality, and the third period was for sectional meetings, of which from four to seven took place at one time. Such subjects as public health administration, vital statistics, sanitation, public-health laboratory work, etc., were among those on which sections were organized.

As a result of this sectional organization, the visitor to the American Public Health Association found from fifty to over two hundred persons meeting as sections, each forming a group especially interested in the subject under discussion and eager to participate in discussion. Papers were strictly limited as to time, none being allowed to exceed the allotted twenty minutes. Those who had been invited to take part in the discussion and whose names were on the program were given ten minutes, but no more, to speak or read their papers, and informal discussion was limited to five minutes. Extension of time was allowed only by vote of those present. It was a striking fact that the number of those who wished to speak in the informal discussion always appeared greater than could squeeze into the time available. Since public health officers are no more interested in their work than hospital people are in theirs, it was evident that the organization by sections at the American Public Health Association served to bring together people who are keen on a particular subject, and to promote really illuminating and effective expressions of opinion.

In such large national organizations as the Conference of Charities, at which a thousand or more persons may register, or in the American Medical Association, which is still larger, the sectional organization is an essential feature of every convention. Even a much smaller society, such as the National Association for the Study and Prevention of Tuberculosis, has three sections, each with its committee in charge, that works out the sectional program.

The American Hospital Association may well consider the example of these other national bodies. It has had "sections," but no sectional organization. The "small hospital section" and the "large hospital section" have not been organized with standing committees to prepare a program. With the many phases of hospital work —administration, medical organization, equipment, construction, nursing, social service, out-

patient work, etc.—there is endless opportunity for effective sectional organization. The new constitution provided at the last meeting of the American Hospital Association opened the way for this step, and it may be hoped that some substantial beginning will be made this year. A succession of large general gatherings with papers on a variety of subjects seems to elicit a rather languid interest and to forestall discussion, rather than to provoke it. Bringing together like minds in sections, each with a program covering a specific range and prepared by those specially interested in this field, would not interfere with the larger gatherings at the general sessions, but would enhance the professional and social value of the meetings to those who often travel far to attend them.

Diversion Therapy in Sanatoriums

It is a common complaint that patients in tuberculosis hospitals cannot be induced to remain long enough to receive real benefit; and it is the experience of tuberculosis workers that patients go from one to another hospital, remaining only a short time in each. Experts realize this state of things, but dismiss the matter with the feeling that it is due to restlessness induced by the disease, high temperature, fear of death, unhappiness of loved ones at home, and the like.

Any or all the foregoing reasons may add to the disinclination of sanatorium patients to remain, but they are not the primary reasons. The truth is that the deadly dullness, the dreary monotony of patients' lives in nearly all sanatoriums would drive the most optimistic and cheerfully inclined well person into the realm of melancholia or out of the institution.

It is true that the range of occupations and diversions which may be permitted is limited. Some patients can perform light tasks; some can read and write, do fancy work, or play games; and there are some whose temperature keeps them in bed. But all these classes would respond enthusiastically to well-directed efforts to divert, entertain, and occupy their minds and bodies, although they do not know how to find diversion and occupation for themselves.

Why not a director of entertainment, to be paid the salary of one or more of the medical people who usually swarm about sanatoriums with nothing to do? For such an office a versatile, well-educated, widely read, and cheerful woman would be the ideal. She should know a good deal about botany, flowers, trees, shrubs, wild life, birds, and small animals like rabbits and squirrels; she should know about clouds, so that she can talk intelligently about the various kinds. She should know a good deal about the drama, so that she can select suitable little plays for evening entertainment; she should be on rather familiar terms with classic literature, so that she may plan readings suitable for different classes of patients, and with current literature, for purposes of a borrowing library.

No woman is going to measure up to all these requirements, but a well-educated, versatile woman—who wants to—can be trained in a few weeks so that she can always be ahead of her patients, and after a few months of practice on the job, her services should be invaluable and highly paid. This woman would take groups out walking on pleasant days, perhaps two or three different groups classified according to the amount of exercise they may have, and give them most enjoyable and instructive diversion, conversing with them about things they come across on the journey—birds, flowers, trees, clouds, rocks, and a thousand and one other interesting things or things that may be made interesting. On gloomy and rainy days they may have interesting readings, talks about books and book characters, current news and what it means, and an infinite variety of interesting things. In the evenings, those who are permitted to do so can study and rehearse little plays and have an occasional performance, at which all the officers, employees, and patients would be guests.

Some day, some sanatorium administrator who is worried because his patients "will not stay" is going to get a Director of Diversion and Entertainment.

Taste and Refinement in Hospitals

In recognition of the powerful influence of environment, hospital administrators are nowadays thinking about making their institutions attractive to all the senses. They invoke beauty of architecture and decoration to please the eye; harmony of sound, music, and quiet, in which harsh noises are prohibited, to please the ear; flowers and sweet scents (in place of the old-time hospital smells, iodoform and carbolic acid) to please the sense of smell; soft fabrics, blankets, and linens, and smooth, clean furniture, to please the sense of touch; and appetizing foods to please the sense of taste.

But we, as a progressive nation, are developing taste along some lines that have hardly been taken into account by hospital thinkers. A few years ago the "all-white" operating, dressing, and service rooms were regarded as the very last word on asepsis; and we have in mind a few hospitals

in which the "all-white" fad was permitted to rule even in the private rooms, and white metal beds, white enameled dressers and tables, and white linen covers and shades were to be found.

It seems that we have well passed this stage of attractiveness now, and superintendents and trustees of taste and culture are planning for "pretty things" in furniture and accessories. That is why the idea of having well-to-do people of refinement furnish individual rooms has taken so strong a hold on the trained hospital mind.

It is a joy to go into a hospital and find evidences of good taste and refinement on every hand, the private rooms provided with attractive carpets or rugs, the windows tastefully draped and shaded, the furniture in pretty styles and of good material, well treated. And if the rooms are all different in their furnishings, each one striving, as it were, to be more inviting than the others, it gives one the feeling that the creature comforts and the sensibilities of patients, as well as their ailments, are given care and thought.

There is no reason why the wards may not also share in these beneficences. Pretty rugs, large and small, can be disinfected and kept clean; window shades and drapings may be artistic, soft and pleasing; the beds may be in attractive patterns, pleasing polishes, and dainty colorings; and the bed dressings may be kept clean and neat. These things all enter into the therapy of our time, far more than drugs, plasters, and poultices.

May more hospital superintendents find the money to add their share to the new era of good taste and refinement in hospitals!

Hospitals Facing Parks

In the search for pure air, sunshine, trees, flowers, and the other factors which contribute to good health and happiness, many hospital boards have their eyes turned longingly to city sites near or facing public parks. Many hospitals are so located, and no small part of their assets consists of these beneficences of nature.

Unfortunately, this is a selfish world, and, strange as it may seem, there be some people who would withhold from the sick the park privileges vouchsafed to themselves, and some who even go so far as to try to interfere by law with the location of hospitals adjoining parks. The ostensible reason for these protests is that sick people carry contagions and might transmit to the protestants or their children some "dread and loathsome" disease. Another reason occasionally given is that a hospital hurts the value of property in its neighborhood.

Of course, we know that these reasons are worthless; disease is not transmitted when two people pass by each other in the open air; diseases are not air-borne, but are transmitted by direct contact. So far as we know, however, no one proposes to place hospitals for infectious diseases near public parks; as for general hospitals and others devoted to non-infectious diseases, their patients are probably less dangerous to the community than are the passengers that one rubs against in a crowded street-car. The value of adjacent property, moreover, is not depreciated by a modern hospital; on the contrary, usually the hospital is the handsomest structure in the neighborhood, and adds far more to the life and beauty of a community than a church or school or apartment building.

The purpose of this note, however, is to ask superintendents whose hospitals face or adjoin parks to write us a note telling us what the people of the neighborhood think about it. They will be doing a good turn for several hospitals that seem to be in trouble over their building permits. Please do this at once, however briefly.

A Work Therapy Number

Under Hospital, Medical and Special Meetings this month will be found a report of the organization, at a meeting held in Clifton Springs, N. Y., of a national society devoted to occupational therapy. We call attention here to the formation of this new national society because it is one of several indications that the important but too long neglected subject of occupational therapy is at last receiving the serious attention which it deserves. THE MODERN HOSPITAL, as its readers know, has long felt a deep interest in the subject. Among the articles which it has published bearing on the topic are: "Hospital Aid for the Handicapped," by Byam Hollings, April, 1914, p. 232; "The Value of Convalescent Labor in Hospital Work," by Charles F. Sanborn, July, 1914, p. 7; "The Relation of Work to Social Service," by Mary Irving Husted, September, 1914, p. 151; "Occupation for Mental Cases During Institutional Care," by Carl W. Sawyer, August, 1915, p. 85; "Occupation of Patients in State Hospitals for the Insane," by Henry P. Frost, September, 1915; "Home Treatment for the Tuberculous," by Edward Hochhauser, March, 1917, p. 207. Because this subject is one of special importance to those in hospital and other institutional work, we have arranged to devote next month's issue largely to this subject. We have secured several of the papers read at the recent Clifton Springs conference, as well as other interesting and valuable papers by leaders in the

movement. We believe we can safely promise that next month's issue will be worth the attention of all who are interested in this important subject.

Authors Request Aid

The program committee of the American Hospital Association has assigned topics to authors who are particularly qualified to write on them. Many subjects, however, are too broad for any one person's experience, no matter how long and varied, to furnish all the information needed. Perhaps it has not been so generally realized heretofore as it should have been that in the membership of the American Hospital Association there is a vast reservoir of experience only waiting to be tapped. Two authors of papers to be read before the Cleveland meeting are trying to avail themselves, through the medium of questionnaires published in THE MODERN HOSPITAL under Letters to the Editor this month, of this accumulated experience of the hospital world. We hope that their requests may meet with an encouraging response.

Incidentally, we shall be glad to publish at any time questionnaires or requests for the results of experience on any subject of interest to hospital administrators. It is time to establish the habit of discussing these things together, and THE MODERN HOSPITAL will be glad to serve as an open forum for the purpose.

Foreign Exchanges Cut Off by the War

Readers of our Current Hospital Literature Department will notice this month the paucity of abstracts from articles in foreign languages. This is due to the fact that, on account of the war, few foreign exchanges are reaching this country at present except from France and Great Britain. Until the war clouds lift, apparently, we shall have to dispense, in the main, with foreign literature. As a compensation, we shall try to present, both in Current Hospital Literature and elsewhere in THE MODERN HOSPITAL, an even fuller and more interesting selection than ever before of abstracts from the literature of those countries that are in communication with us.

Preparedness Committee Wants Reports

Dr. F. A. Washburn, of the Massachusetts General Hospital and of the Medical Preparedness Committee of the Army, wishes to urge all hospitals that have not already done so to send in the inventory forms that have been sent to them.

Accurate knowledge of conditions in the hospitals of the country must be in the hands of the committee for the use of the War Department, if the campaign for preparedness is to move rapidly, and hospital administrators should do their part by furnishing at once the information asked of them. Please attend to this without delay.

SAN DIEGO CLAIMS FIRST DIAGNOSIS HOSPITAL

Anticipated New Factor in Medical Practice Materializes in California City

Movements toward the establishment of hospitals to be devoted exclusively to diagnosis have been inaugurated in various parts of the country within the last year, a notable instance being the project fathered by the New York Diagnostic Society, which was described in the January number of THE MODERN HOSPITAL. San Diego, Cal., however, appears to be the first city in which such an institution has actually been put into operation. A diagnosis hospital founded by E. W. Scripps, head of the United Press and the Scripps list of newspapers, was opened in San Diego last month. Although of small capacity, it forms the nucleus of an institution which Mr. Scripps proposes to develop at a cost of $250,000.

The hospital is housed in a two and one-half story building, the first floor of which contains the office, reception-room, examining-rooms, laboratory, staff dining-rooms, kitchen, laundry, etc. The second floor contains six beds for patients. The number of beds will be increased as the demand may require.

To provide for persons of moderate means the best facilities for diagnosis that the medical profession can offer is the purpose of the founder. Patients will be admitted only on applications through licensed physicians, and will be sent back to these physicians for treatment. During the first year, only members of families whose total income is not more than $100 a month and single persons whose incomes are $80 or less will be received. Rates for diagnosis will range from $25 down to $10, according to the income.

The staff is composed of specialists in the various branches of medicine, each specialist serving for one month at a time and without pay.

When a patient is brought to the hospital a complete history is taken and the patient is put to bed for at least forty-eight hours, to allow time for examination by a member of the staff representing each group of specialists. The case is then discussed by the staff at a luncheon, to which the patient's physician is invited. In conformity with this plan, a luncheon is served at the hospital daily, except Saturdays and Sundays.

The physician referring the patient for diagnosis receives a written copy of the diagnosis, with suggestions as to the plan of treatment that should be followed, but under no circumstances is the diagnosis given the patient.

By the cooperation of the Kansas State Hospital Association, it is now being arranged that all mothers who are delivered in hospitals shall have the additional advantage of personal instruction in the care of herself and the baby. This includes bathing and dressing the baby, preparation of food and clothing, and the many minor details of care of the after-period which are likely to be neglected and which go so much to make for the comfort and well-being of both mother and child.—Kansas State Board of Health, Child Hygiene Number.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Relation of the Training School to the Hospital*

BY A. R. WARNER, M. D., Superintendent of Lakeside Hospital, Cleveland.

The relation of the training school to the hospital is today a live subject. We are nearly at the end of the relation, practically universal, with which you are all familiar, and the education of women for the various fields open to nurses is now under active discussion and experiment. Only one point can be said to be certain: the general public demand for nurses for the various fields of nursing work will be answered in some way; the required workers will be produced. The principal point for consideration by hospitals is the determination of ways and means to meet squarely, wisely, and adequately the present conditions which seem to demand recognition by hospitals that, either they must maintain schools on the basis of educational institutions to provide professional and vocational training, or schools of nursing will pass into other management and affiliate only with hospitals for the practical training. The alternative is already before us. The Illinois Training School of Chicago is an independent institution, sending nurses to the Cook County Hospital for their practical work on the basis of affiliation or contract, and there is no reason to allege that this plan has proved a failure. Enlargement of this school on the basis of similar contracts with other hospitals is now contemplated. There are also several training schools really under university management. These schools are all located in university hospitals, and the practical training is given in these hospitals, although the university controls staff appointments and the other educational details, and the university, not the hospital, authorizes the graduation and issues the diplomas. Not only the details, therefore, but also the fundamental bases, of this relation are under discussion, with no decision apparent.

This relation of the past came naturally and easily through common interest and common benefit. With the development of the idea of trained nurses there arose a general active interest in training schools on the part of hospital, which was not always entirely altruistic. Hospitals were at that time just beginning to increase rapidly in number, and the training school solved the problem of providing nursing service on the wards. The type of instruction to nurses was then very largely practical, and knowledge was acquired principally through experience. Vocations for women were then fewer and there was a surplus of applicants to take training, making it almost a pressure on the hospitals to provide facilities for greater numbers of pupils. Hospitals desired training schools and the young women desired nursing training. Under these conditions, hospitals soon found that much of the menial and housekeeping work could be transferred to the pupil nurses. The demand for special nurses appeared, and it became the custom to assign a pupil nurse as special. The pupil nurse then became an asset of the hospital, and the more pupil nurses a hospital could assemble, the greater number could be rented out at considerable profit. At first and in many hospitals, the practice never went beyond the custom of service by pupil nurses as specials for patients in the hospital, where the pupils remained under the direction of their regular supervisors and worked under the usual conditions and methods. With such conditions a certain amount of experience as a special may not have been objectionable, perhaps even beneficial. But there were hospitals that developed a thriving business in renting out pupil nurses as specials for cases outside the hospital.

Until three years ago there were training schools connected with California hospitals in which a large part of the training of the nurse consisted in special duty in homes of the surrounding community. In California this practice, together with the long hours required, became a subject of general criticism. The labor interests took up the matter and the eight-hour employment law for women was made to apply to nurses. This law is very stringent and undoubtedly causes California hospitals much inconvenience. For two years, representatives of California hospitals appeared before the American Hospital Association, relating their difficulties and hoping for action on the part of the American Hospital Association which would help to bring a modification of this law. It was the consensus of opinion in the American Hospital Association, however, that the exploitation of the pupil nurse in California had reached unreasonable limits and that the California hospitals were themselves responsible for the agitation and subsequent legislation. This feeling of the association came out plainly the second year, so that nothing more has been heard from the California hospitals on this subject. By this inaction the American Hospital Association practically committed itself as against the exploitation of the pupil nurse to augment hospital income and against unreasonable hours of service. Training schools were then recognized as schools with responsibilities to the pupils and to the community, not merely subservient departments for producing labor.

Unfortunately, the loading upon pupil nurses of a large amount of housekeeping work and long hours gave nursing training an unenviable and unnecessary reputation as difficult, a strain on vitality and health as well as disagreeable. To this unfavorable report, service as specials probably added but little. Parents are now hesitating to allow their daughters to undertake the arduous task of a nurse's training, yet they have no such feeling toward a college course, business training, or any other educational work. The extensive questionaire sent out and reported by Miss Bennett[1] has demonstrated conclusively that the high-school girl is well posted about the hard and disagreeable features of nursing training. The lack of specific educational facilities in training schools is not a prominent complaint of nurses and the parents of prospective pupils, but the lack of general educational, cultural, and social opportunities is often mentioned. In contrast to this, the purpose of progressive nurses to extend the fields of work open to

*A paper presented to the Cleveland League of Nursing Education March 8, 1917.

[1]Miss Bennett, instructor in chemistry, East High School, Cleveland, sent out and tabulated the results from 1,139 questionaires designed to bring out the attitude of high-school girls toward training schools and nursing education. In order to avoid local conditions, the questionaires were divided among the high-school girls of Minneapolis, Jersey City, La Crosse and Cleveland.

them and the decision of society to use nurses to carry the public health or welfare message to the people have been clearly evident for some time. From these two sources, (1) the general dissatisfaction with the present conditions, and (2) the demand for public health workers, the movement for the educational development of training schools has come and gained some headway. The present situation may be described as a growing demand and a growing scarcity in the supply. Under these conditions, it is not necessary to apologize in saying that something is wrong.

One cannot speak of a vocation as a profession without implying an educational training. The slowness with which hospitals have developed the educational features and all that contributes to professional training in their nursing training schools has not been a help in placing nursing, in the eyes of the public or of the young women selecting a life's work, on a par with teaching or other work requiring even less preparation. There has appeared a practice of paying pupil nurses a monthly stipend or salary in recompense for their labor. Surely this can never add to the educational or professional standing of nursing as a profession. If the shortage of applicants is met by this method, the pupil nurse will be an employee of the hospital, not a student attending a course of instruction. The payment of a salary cannot make training schools more attractive permanently. The more salary paid, the less hospitals will feel the responsibility for maintaining educational features. The permanent way to attract more applicants lies in lines tending to improve the conditions in the training schools both by limiting objectionable features and by adding desirable features to the end that training schools shall be recognized as educational institutions and the training thereof on a par with the education required for other competing vocations. The attitude of young women and their parents toward nursing training will then change, and those who desire to do social work will not regard the training school as an impossible bar to the securing of this part of the preparation. A few hospitals already maintain more educational facilities than others could possibly obtain because of fundamental conditions, those of location, organization, character of work, etc. Formerly training schools may have varied widely, but it was at least possible that the essentials be uniform. It is no longer so. Improvements are probably possible, however, in every school.

It is one of the prominent characteristics of our democratic government that, often imperfectly, yet essentially, the welfare, the needs, and the will of the people are supreme, and the choice of a vocation is a free, uncontrolled choice. In looking into the future of nursing work, one can be certain that the needs and demands of the public for nursing service and the opportunities of the nursing field compared with other fields of work for women will shape almost entirely the destinies of your profession and determine what the ultimate relation of the training school to the hospital shall be. For a moment, then, let us consider the question from the standpoint of the trends now evident in the economic evolution of society, which depend on the nursing profession for the required personnel.

The field of bedside nursing is established. There is a tendency among the wealthy to employ nurses unnecessarily. There is a tendency among the middle classes to recognize the need of nursing service, but, because of the cost of a graduate nurse, to employ a so-called practical nurse even though the difference in cost be small in comparison with the respective capabilities. The nurse with some additional educational experience and training has proved capable in the administration of the smaller hospitals. Certain administrative positions in both the training school and the hospital are filled exclusively with graduates of nursing. Many, if not all, of the various branches of welfare work and social service as well as public health nursing are generally classed as open to nurses. This is to a large extent true, but more true in Cleveland than in any other city of the country. Demands for nurses therefore come from three distinct fields: (1) bedside, (2) administrative, (3) welfare and public health. The young woman who chooses any of these fields must consider the training school in the light of a preparation for the chosen work. The present training schools unquestionably prepare for bedside work, but it cannot be claimed that they prepare fully for either administrative or social work. Additional experience or training is necessary. The effect of this on young women selecting a field for their labor is discouraging; two courses seem too much.

The old controversy of the nurse versus the social worker for social service and general public health and welfare work is to my mind unfortunate and the direct result of this condition. Those electing to do social or welfare work select the shorter course and more direct preparation of the schools of philanthropy. It is my opinion that the highest service in public health and welfare or social work can be rendered by nurses with social training. It seems to me unfortunate that some schools at least do not combine the two lines of preparation and produce nurses fully trained and qualified for this work, and also unfortunate that the credit of such work and the public standing attained by social workers of all kinds cannot thereby accrue to training schools. At present the credit and standing go very largely to the school of philanthropy or course in sociology with which the nurse finishes her preparation for this work. At the present time I know of no preparation for administrative positions in hospitals other than practical experience or Columbia Teachers College. The nurse who gains success in any branch of hospital administration without attending such courses in Columbia is given personal credit for her achievements and the training school from which she graduated is not assumed to have contributed greatly thereto. Many requests are now coming to Lakeside for nurses to fill administrative positions. Our graduates are not prepared for this work without subsequent training. The training school, therefore, cannot have an appreciable or constant supply of candidates for these positions. It will never be possible for all nurses who take up administrative work in hospitals or training schools to have Columbia training. It is not necessary that more than a few instructors be the most highly educated and trained; but it is now advisable that the rank and file of those employed for administrative positions in hospitals receive some training in theoretical administrative work.

If hospitals as such are to develop and maintain training schools capable of fitting students for positions in public health, welfare or administrative lines, it is high time that they were doing it. Schools of philanthropy, sociology, or social service, as they are variously called in the general universities, are now practically a rule. There are, in addition, other courses and schools similar to that organized and maintained by the Visiting Nurse Association of Cleveland, for a time independently and later combined with the School of Applied Social Sciences of Western Reserve University, which was created primarily and wholly to fill the gap between the present nursing education and the requirements for public health work. The conventions, the standings, the associations which determine the accepted preparation for the various fields of

work and the general public attitude and appreciation are now being established. Delay simply means more to be overcome and changed by the hospital training schools if they are to keep control of the training for the various types of nursing work.

To maintain a training school which would fully prepare students for public health, welfare, or administrative work would be an expensive proposition for the hospital, and probably possible only in the case of hospitals situated near universities so that much of the didactic instruction could be given in the university classes. It is probable that in these cases the university would at least determine graduation and issue diplomas, but the practical social service, administrative as well as nursing, would be given in the hospital proper. Practical work in hospital administration can best be given in a hospital for the reason that there the examples and the problems are real and first-hand; elsewhere they must be substitutes, copies, and second-hand. A patient may fail to harbor a pathological lesion, but he cannot fail to be an individual with a past to consider, a present affected in some ways by his hospital residence, and a future not yet fully determined. The combination of medical with social training will prove as efficient as the combination of medical with social philanthropy. It is probable that separate courses would be required to prepare for the administrative and for the public health work. The proper length of time required for either of these courses would necessarily be determined by results.

For the few institutions to undertake instruction on this scale would be a direct benefit to smaller institutions. It would not be necessary for all the training schools to organize on these lines, and a small hospital could not wisely undertake to finance such a school. It is probable that the training schools of small and large hospitals, not so situated as to work out university affiliation easily, would continue to maintain training schools of the present type. The benefit of these institutions would come from two factors. The hospitals with university affiliation and training schools preparing for other lines of work would no longer be in direct competition with the hospitals maintaining training schools of the present type. No argument is necessary as to the importance of training nurses for bedside work, and it is my opinion that it may properly be assumed that the others without university affiliation, even the smaller hospitals, can train nurses for this work equal to any. A second advantage to hospitals making no change would come from the fact that the training of nurses would remain definitely associated with hospitals, and the obligation to run a training school to supply nurses for the community would be recognized by the trustees of every hospital. If the training of nurses becomes dissociated from hospital organization, independent schools like the one in Chicago, which will operate to even better advantage with large numbers of pupils, will increase in number. It is likely that the practical work of all near-by hospitals would be absorbed by these schools and that, with the present tendency to cut down on the practical work of training, the combined hospitals of cities would provide the practical work for a very large number of pupils. If such schools become generally accepted, the training schools of hospitals in smaller cities and towns would find it very difficult to compete, not in the matter of giving an equal training, but in the minds of applicants desiring a training in nursing. It would be most unfortunate for these communities if the local training schools were to be discontinued.

The organization of the nursing school at the Cincinnati General Hospital is unique among training schools of the country. This school has "university affiliation" so called, but practically the school is run by the university. The governing body of the school is composed of university faculty members and the superintendent of the hospital. Graduation is determined and diplomas given by the university for the three-year course of straight nursing, which may be compared directly with the corresponding course at Lakeside and other hospitals. For the five-year course, which is made up of two years' university work, taken first, and then three years' nursing work, the degree B. S. is given, together with the diploma in nursing. It is to be noted, however, that even this five-year course does not prepare for either administrative or social work. This school also maintains a one-year course for sick-room "attendants," as they are called. The probation period and other time are so arranged that pupils may leave at the end of the year with this much training for bedside nursing, or, if otherwise qualified, they may continue in the full course or later return to the full course, receiving credit for the year's work. These women, whether qualified by preliminary education for the full nursing course or not—and women not qualified by preliminary education are accepted in the short course—are a marked improvement over the practical nurse of this city who has either no training at all or a correspondence school course. They do nursing for practically the same class of people, and the earnings are probably about the same.

The present situation is that, notwithstanding the various organizations and affiliations which have appeared, there is no training school in the country preparing directly for administrative or public health and social work. For the few training schools which are so situated as to have university affiliation and which can command the necessary financial backing to support training schools to prepare women directly and fully for these fields of work is certainly a reasonable organization and one which can claim many points in efficiency. For these few schools so to organize and thereby hold the training of all kinds of nurses as the function of hospitals, even though it be not desirable to train all kinds in the same school, would be of direct benefit to all training schools, wherever situated. Only one point remains to be discussed, and that point will always be unpleasant to present-day nurses. It is entirely possible that the length of the full course to prepare for the various fields of nursing may vary, and it may be difficult to devise satisfactory designations for the various types of schools and graduates. It is possible that a hospital may decide that its greatest opportunities for good lies in the way of maintaining a training school to provide nurses for the sick of the surrounding community; it may be that that hospital will decide, quite wisely, that the community will be better off with the services of two two-year trained nurses than with one three-year trained nurse. The elimination of the untrained woman who makes nursing a vocation is the essential. No one can foretell the details of future changes to accomplish this end.

You may have expected that the relation of the hospital to the training school would be discussed by me with a certain definiteness as to detail, but at present this relation is not a definite thing. The object of this paper is to bring before you the present indefiniteness and state of transition of this subject.

For it may safely be said, not that the habit of ready and correct observation will by itself make us useful nurses, but that without it we shall be useless with all our devotion.—Florence Nightingale, "Notes on Nursing."

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

The annual meeting of the Hotel Men's Association of Ohio was held in Columbus in December. Miss Edna White, head of the Home Economics Department of the University of Ohio, discussed at this meeting "Home Economics in Relation to Hotel Problems. In the January number of the *Hotel Monthly*, a report of this meeting speaks of Miss White's paper as being "what was generally referred to as the most important address of the meeting."

We have been permitted to give this paper to our readers; we are sure that all who are interested in the kitchens of hospitals or other institutions can apply many of Miss White's suggestions about hotel kitchens to their own problems.

Especially would we emphasize the first few paragraphs, which treat of the application of scientific principles to commercial food problems, the need of systematic attention to these subjects, cooperation of the people engaged in the business, and the fundamentals necessary to success.

The need of educating the patrons of the hospital is just as great as is that of educating patrons of a hotel. Some of our readers may recall a statement which appeared in THE MODERN HOSPITAL more than a year ago to this effect: that the serving of poorly selected menus and improperly cooked food in the majority of our hotels and restaurants furnished the hospitals with many of their patients. It is true that the public has accepted and now demands highly seasoned dishes, rich sauces, unduly large quantities of meat, and many other things that will destroy the digestive apparatus of one who has acquired these habits. Not only are these things being demanded in the hotels, but also we frequently have patients in the hospital who think they are abused if they cannot be served with the kind of food for which they have cultivated a liking and which they are able to get in public eating-places.

"The managers of hotels, as a rule, pay little attention to the kitchen because they know little about it." Would not Miss White's statement apply equally well if she were to substitute the word "hospital" for "hotel"?

The Dietitians of Cleveland

The dietitians of Cleveland have continued their monthly meetings throughout the winter. In February they met at Mount Sinai Hospital and listened to a very interesting talk given by Miss Florence Le Ganke, of Woman's College, Western Reserve University. She told of many valuable things found to be true in regard to canned goods, the percentage of solid material and of water in many of the various brands, the cost per serving, and many other points that not all of us have found out for ourselves. Their system of keeping records of supplies was also of great interest.

In March the meeting at Lakeside was addressed by Dr. H. Feil. He talked about the more prevalent diseases of metabolism and the decided changes in the method of their treatment within the past few years, giving reasons for changes and theories advocated in many instances. Dr. Feil made some forceful suggestions in regard to the need for cooperation between the physician and dietitian, and some of the things a dietitian could do to help bring about this cooperation.

This seems to have been a general moving session for the dietitians of Cleveland. Practically every dietitian in the city except those at Lakeside Hospital has changed locations since the first of February. Miss Mary Moon, who was at St. Luke's Hospital, has been succeeded by Miss May Miller; Miss Miller came from Grant Hospital at Columbus, Ohio, to St. Luke's. Miss Marguerite Deaver, formerly at Christ Hospital in Cincinnati, takes the position just vacated by Miss Margaret Endress at Mount Sinai Hospital, the new Jewish hospital of Cleveland. Miss Bartsch is taking a few weeks' rest since giving up the work at City Hospital preparatory to taking up the work at the new Lakewood Hospital the first of May. Miss Shattuck assumes charge of the dietary department at the City Hospital. Miss Mateer is leaving the Contagious Hospital, and Miss Zorn will leave the Lutheran Hospital this month.

Home Economics in Relation to Hotel Problems*

BY EDNA N. WHITE, head of Department of Home Economics, Ohio State University, Columbus, Ohio.

The problem of high food prices facing hotel men is in many ways allied to the housekeeper's problem. As home economics teachers, we have been studying the problem in order to be of assistance to housewives, and, while we have not had the commercial side in the foreground, we feel that we are able to make some contributions that may prove suggestive at least.

The application of scientific principles to commercial food problems has received little attention either from hotel men or from workers in home economics, probably because there has been little recognition of the need of such application. The attitude is not unlike that taken a decade ago by many people toward systematic study of home economics problems, when it was pretty generally believed that the mother's and grandmother's knowledge of food was supreme. But the rapidly increasing number of students in these home economics courses and the large expenditure of money by both federal and state agencies are indicative of the change in attitude toward the study of the household. Until hotel men themselves recognize the need of systematic study and cooperation, very little can be accomplished. No outside agency can solve the problems of any group without cooperation and assistance from the people actively engaged in the business.

A few isolated experiments can be pointed out in which scientifically trained women have undertaken the feeding of large numbers and have possessed financial ability enough to make the experiment successful. For example, Battle Creek, Chicago University, Minneapolis Hotel, and Lake Placid Club illustrate each a different type of commercial undertaking.

*Read at the annual meeting of the Hotel Men's Association of Ohio, Columbus, Ohio.

In each of the cases cited the women had executive ability, and they were given a free hand. It is folly to expect an inexperienced woman, no matter how well trained, to cope with the complicated difficulties that arise in the ordinary hotel. It is just as foolish to expect an average man, inexperienced in selecting and preparing food, to deal successfully with the food problem, and I think many of you will bear witness that that part of your business has not been successfully handled either from a financial point of view or from the point of view of giving well-prepared food to your patrons. The financial test is the test ordinarily applied to problems of this kind, but I am not sure that it is the only method of measurement that should be applied. Satisfaction to your customers might be considered another test. I do not believe that most hotel customers would be willing to say that the *best* hotels are equal to the *best* homes (of course only like things must be compared), so perhaps in this test the results do not measure up to the possibilities.

The cases which I have cited of scientifically managed institutional problems that are successful apparently owe their success to four fundamental principles: first, to the change in the type of meals offered; second, to the elimination of waste to a greater or lesser extent; third, to the carrying out of sanitary laws and regulations; and lastly, to accurate records.

For many years hotel men have been spending their energy in educating their public to make the wrong kind of demands. They have vied with one another in offering inducements to their customers to order lavishly of expensive materials until the situation has become ruinous. In a recent discussion by Dr. Langworthy, government food expert, on selection of diets, meals were divided into the hotel type and the family type. The first is characterized by the large proportion of meat and the latter by the large proportion of fruit and vegetables. Aside from the question of relative expense, the question of personal welfare would lead to the selection of the latter type. But for years all hotel menus have been built on this idea of making meat the important item, the other things being merely incidental. Since fruits and vegetables are considered merely incidental, little attention is given to their preparation, and in consequence it has become proverbial that in the ordinary hotel the vegetables are almost uneatable.

Now, it will be no small feat to reeducate your public, but I venture to predict that it will have to be done. That it can be done is shown by the greatly decreased consumption of meat in the ordinary home, due undoubtedly to the agitation by nutrition experts against the excessive amount of meat in the ordinary American dietary.

Anyone who has ever visited Battle Creek can testify to the great interest taken by their guests in selecting their diet according to the suggestions offered by their dietitians. Guests of this institution seem to regard this unique method as some new and interesting game which they are eager to learn. One of the northern railroads offers a menu each day which they advertise as well balanced, and the dining-car directors have testified to its popularity with the public.

You may ask what the desirability of this would be from your standpoint. First of all, it would cut down decidedly the large servings of meat, which is, as you know, one of the most expensive items in the food budget. It would mean the substitution of larger amounts of vegetables, a much cheaper type of food material, and it would also result in greater satisfaction to your patrons in the long run, because a better-balanced dietary makes for health and well-being. Nutrition experts are finding that, in digestion, meats produce substances that need to be counteracted by mineral salts found in fruits and vegetables. Disregard of this is likely to lead to digestive disturbances if long continued. Has it ever occurred to you that perhaps some of your difficulties with cranky patrons may be due to an unbalanced diet?

But this type of dietary will never be satisfactory or popular until your cooks learn to prepare their vegetables simply and appetizingly. In most cases vegetables are regarded as such an unimportant part of the menu that little attention is given them. In the ordinary hotel one hesitates to order vegetables because they are rarely well prepared. The hotel that makes a point of having good vegetables will find little difficulty in disposing of them.

The question of waste and graft of employees is a difficult one to handle. Waste occurs in many ways. Too large servings, the offering of too great a variety on any one menu and the consequent spoiling of food, the loss through careless handling, and the loss through insanitary conditions—all conspire to raise this item to an unbelievable proportion. We have studied homes enough to know that the waste varies all the way from practically nothing to 20 percent. I doubt if even the latter figure will cover the waste in many hotels. Would not the reduction of this item to a negligible quantity, in many cases, make the difference between profit and loss in your venture?

Another consideration, namely, the question of sanitation, is one of the problems most needing your attention. How many of you would be willing to have your patrons sit in a corner of your kitchen for a day to pass on the sanitary practices and conditions of your kitchens? I suggest that you try it yourselves.

Do you realize that one of the greatest differences in the taste of food prepared in the *best* homes and in your hotels is due to just this, namely, the delicate flavor of the food material is spoiled either because the utensils are not immaculate or because the food itself has been kept so long that it is not in prime condition? You would not find it necessary to use so many highly flavored and expensive sauces if your foods were carefully prepared. I recognize that it costs money to be clean, but I think it has not always been clearly understood that dirt also brings losses. Wherever vermin abounds, food standards are low, and the service problem is complicated by the use of various devices to cover up undesirable flavor in the food.

As a whole, the policy of hotel tables has been largely determined by the part of its public that indulges in loud-voiced complaints. There is, in addition to this patronage, a large proportion of quiet people who are not complainers and they quietly go to simpler places whenever possible. A study of the places that have been conspicuous successes from a financial point of view is rather illuminating. In very few instances have they been places where high prices and elaborate service prevailed. Simple dishes at moderate prices bring numbers, thus reducing relatively the cost of operation and service. Many of these places have departments where surplus prepared food is sold in order to avoid the deterioration due to carrying food materials over. This plan has been successfully worked out in one hotel of which I know.

And, finally, in order to determine possible leaks, a system of careful accounting is necessary which must be carried on in the kitchen and not in the front office. Unless weights and measures of incoming goods are carefully checked, as well as servings of prepared foods, graft insidiously creeps in and profits disappear.

Back of all these questions which I have been discussing there is one factor not yet mentioned. That is the type of person who is finally responsible for food preparation. There has been entirely too much of a tendency to relegate it to unintelligent people, whereas it is such a complicated problem from the point of view both of selection and of preparation that it requires most intelligent consideration. The small hotels often cannot pay enough to get good help, and, even if they did, it is not easily found. The large hotels often offer such undesirable places in which to work that skilled and intelligent workers avoid entering the field.

The managers of hotels, as a rule, pay little attention to the kitchen because they know little about it. They labor under the delusion that the chef knows all about that. Now I have faith to believe that many of the conditions I have outlined would improve, if not entirely disappear, if the hotel men themselves would study their problems instead of leaving them to their employees. If they would study some of the principles underlying rational selection and preparation of food and then see that these were carried out, and at the same time work at educating their public, I think the food side of the hotel problem would soon be revolutionized.

As students of food problems in general, we offer our cooperation and assistance in helping you to solve your problems. We could suggest some principles that govern the planning of well-selected menus; we have studied some problems in selection and buying of food; and we have studied the problems of preparation and reduction of cost of time, money and labor. We know some things about conservation and preservation of food supplied.

If these suggestions were interpreted in the light of your experience, I believe they would be helpful, but I wish to emphasize once more that if your problem is to be successfully worked out, it must be done through cooperation.

The New Pure-Food Catsup: Or, When Is a Chemical Not a Chemical?

BY DR. J. A. WESENER, of The Columbus Laboratories, Chicago.

[Concluded from the April issue.]

The antiseptic properties of essential oils are thoroughly recognized by the medical profession and have been used by physicians in the treatment of diseases, especially in those cases in which it is desired to check fermentation, as in cases of flatulency. The essential oils of cloves and allspice contain large quantities of eugenol, and the United States Pharmacopeia states that the essential oil of cloves must contain not less than 80 percent, and allspice not less than 65 percent, of this body. Eugenol, according to the United States Pharmacopeia, is an unsaturated aromatic phenol obtained from oil of cloves and other sources. It is a well-recognized antiseptic, and the United States Dispensatory states that it probably resembles carbolic acid in its physiologic action. Some authorities have gone so far as to assert that eugenol is a more powerful antiseptic than carbolic acid.

Oil of cinnamon contains much cinnamic aldehyd and may contain cinnamic acid. Cinnamic aldehyd is readily oxidized to cinnamic acid on exposure to air, a condition which very nearly always occurs when a bottle of catsup is opened and kept in the household. Cinnamic acid was at one time used largely in the treatment of tuberculosis. It is well known that the chemical formula of cinnamic acid is closely related to that of benzoic acid, and cinnamic acid is prepared synthetically from benzoic aldehyd. Decomposition products of these two substances in the body are known to be practically identical, and both produce hippuric acid. In addition to this, it has been found that cinnamic acid has marked bactericidal properties, especially when used in connection with certain fruit acids, as tartaric acid. Powdered capsicum and fluidextract of capsicum are powerful irritants, and are always taken in very small doses.

It will be seen from the chemistry, as I have outlined it here, that spices, their essential oils and other preparations from them, vinegar, or the acid which it contains, which is now the one always specified in the Pharmacopeia for making medicinal preparations containing acetic acid, are all properly classed as chemicals, and the active principle of each bears a definite chemical formula. If there were in nature substances from which benzoic acid could be obtained in sufficient quantity to be used in the preparation of catsup, it could as well be added in this form as in the form of the refined product commonly obtained in the markets. The wide distribution of benzoic acid in foodstuffs and in the animal body is well established. It is found as benzoic acid and in the form of derivatives. In the vegetable kingdom, the family of the palms produces a natural exudation known as dragon's blood, which is similar to the gum obtained from the benzoin tree. The family of grasses also contains this acid or its representatives. Benzoic acid has been identified in sweet vernal grass and has been found in the meadow soft grass. It is present in what the Germans call the *Waldmeister*, a plant which is used in the flavoring of certain beverages in the old country. It is found in the congener of our cranberry, the German *Preisselbeere*, which is used extensively as a relish in Germany. The *Preisselbeere*, like the American cranberry, has a capacity for remaining in good condition for a relatively long time. Naegle was the first to call attention to the antiseptic properties of the substance contained in the *Preisselbeere*. The American cranberry contains of benzoic acid, according to W. D. Bigelow of the United States Department of Agriculture, between 210 and 430 mg. in 1 kg., or a trifle less than what is permitted in the preparation of catsup. It is also found in sweet clover and in the fruit known as St. John's bread, which is occasionally eaten by children in this country, but which serves as a more important article of diet in some oriental countries.

Cranberry sauce, which is the side dish at all Thanksgiving Day dinners and is extensively used at other times of the year, is especially rich in benzoic acid. We consume considerably more benzoic acid at one meal, when partaking of cranberry sauce, than we would obtain from the taking of catsup, as catsup is usually eaten. It matters not what we eat, there are always present products which are changed into benzoic acid, and during the twenty-four hours probably 1 to 10 grains of benzoic acid is produced in the small intestine and is derived directly from the food which is consumed. The benzoic acid thus produced is dissolved and carried through the tissues of the body, finally reaching the kidney and eliminated as hippuric acid. The urine from the grass-eating animals is very rich in hippuric acid, whereas that of man is rich in urea. On account of the wide distribution of benzoic acid in both the vegetable and the animal kingdom, it seems the height of absurdity to say that 0.05 to 0.1 percent of benzoic acid when added to a product is poisonous because man in that case did the adding, whereas, on the other hand, if the benzoic acid or its derivatives exist naturally in the foodstuff, it is then considered harmless and the product in which it is eaten perfectly wholesome.

Catsup preserved by benzoic acid usually contains much less spice and vinegar, is far more wholesome and better for the well-being of man than the catsup made in the old-fashioned way, which was exceedingly spicy, or the new pure-food catsup of today, which is preserved either by an excess of spices and vinegar or by the use of essential oils, vinegar, and fluidextract of capsicum. For my part, I would rather drink a pint of sweet catsup preserved by benzoic acid than I would two ounces of the so-called pure-food catsup, and I am certain that if any disagreeable disturbances were manifested, it would be due to the malic acid naturally present in the tomato, and not to any benzoate. On the other hand, I am quite certain that the dose of the preservatives in the two ounces of the pure-food catsup would produce more marked physiologic disturbances than would the benzoate which would be obtained from the pint of sweet catsup. These are all chemicals, no matter whether we eat the chemical in the form of powdered cloves, cinnamon, capsicum, and vinegar, or in the form of chemically purified products obtained from these. The only difference is that one is the crude and the other is the refined. Unfortunately, it is this latter fact which the poor buncoed American public has not been made to understand by those who have had selfish motives. I might add that this buncombe has extended even to our own medical profession, which recently condemned sodium benzoate and other preservatives in foodstuffs when there were probably not more than one or two in the entire assembly who understood the purport of the resolution which they were passing, and this, too, in the face of the findings of the Referee Board, composed of some of the most able scientists in the country, who had been selected for their special qualifications to pass on this subject and who had reported, as the result of careful investigations, that they found no harmful effect to come from the use of sodium benzoate, even in large doses far in excess of any quantity that would ever be used in the preparation of food.

The report of the Referee Board was accepted and endorsed by the National Food and Dairy Commissioners, who were in convention in Denver, August 24, 1909. The only condition which the opponents to the use of benzoic acid are still upholding, now that they have given up the claim of deleterious effect, is that by the use of this product inferiority can be concealed and thereby deception practiced. Now, as a matter of fact, just the opposite is true. Sodium benzoate is an odorless and practically tasteless compound. I have made many experiments in the preservation of tomato pulp of all kinds, and have found that rotten pulp can be preserved much more readily by the use of essential oils, spices, and vinegar than by benzoic acid; that the benzoic acid will not cover up any of the odors produced from the decaying material, nor will it in any way change the flavor. On the other hand, it is quite easy to disguise the flavor and odor of decaying tomatoes when the essential oils, spices, and vinegar are properly used.

I have already stated that the benzoic acid catsup retains the delicate tomato flavor, whereas the essential oil and the fluidextract of capsicum catsup is mostly a flavor of spices and sour. Therefore we see that benzoate will never disguise inferiority, whereas, by the old-fashioned way, as mother used to make it, or by the more refined way in which the active principles are used, inferiority can be easily covered up.

Professor Long also investigated this question as to whether or not inferiority could be disguised by the use of benzoic acid, and he found that this could not be done, but when working on the same rotten tomatoes and using vinegar and spices, he had no difficulty in disguising the inferiority. He says:

"Some of this was preserved with vinegar and spices, some with benzoic acid, and some was left unmixed. The odor and taste of the last was bad; that with the benzoate essentially the same, while with the vinegar and spices a fair grade of commercial catsup was secured. A worse lot of raw material could not be imagined, yet the inferiority in the one batch of product was completely concealed by the use of the vinegar and spices, and this is a perfectly logical result."

In summing up this paper I wish to emphasize the following facts:

1. Benzoate and benzoic acid are medicinally less active than the other substances used in the preservation of food, and the benzoate is less active than the preservatives now used in making the pure-food catsup, which, it has been stated, may be made without the use of chemicals.

2. By the use of benzoate and benzoic acid, the flavor of the article preserved is not lost nor can any inferiority of the product be disguised.

3. The flavor produced by vinegar and spices is wholly artificial and does not retain much of the natural flavor of the product that is preserved. By this it is easy to cover up inferiority and thereby deceive the consumer.

4. Changed conditions in economics have made it imperative for the manufacturer to prepare his food to reach the consumer in a sweet, wholesome, and palatable state. Benzoate and benzoic acid for catsup do this far better and in a less injurious manner than the products that are now used and so extensively advertised in the manufacture of the pure-food catsup.

It will readily be seen why I chose this subject and gave it such a ludicrous title, "The New Pure-Food Catsup: Or, When Is a Chemical Not a Chemical?"

COLLECTION OF HOSPITAL FEES

Minnesota Hospitals to Be Put on Same Footing as Hotels

On the initiative of the Minneapolis Hospital Council a bill has been introduced into the legislature giving hospitals and sanatoriums the same protection now afforded hotels, boarding houses, and lodging houses against dishonest patrons. Section 8969 of the Minnesota code now gives the latter class of institutions a lien on the baggage or effects of patrons. The bill now pending simply amends the present law by adding the words "hospital or sanatorium" to the list of institutions thus protected.

Care of Mental Defectives in Ontario

An effort is being made to induce the Ontario provincial government to establish two industrial farm colonies for mental defectives, one for girls and one for boys, to accommodate in all about five hundred pupils. The Toronto City Council has consented to set apart land for the use of the colonies, and the board of education is willing to give $100 a year for each pupil sent by the board. The provincial government has been asked to contribute at least $50 a year for each pupil. It is not the intention to take in the colony feeble-minded boys and girls of all grades, but only those of the higher grades, who are at present the greatest menace to society. Nor is it intended that they shall remain permanently in the colony. After being trained for self-support, some, it is hoped, may go back into society; others, it would appear, when they are 21 years old, will be placed in the care of other agencies.

INDUSTRIAL WELFARE

PRACTICAL INDUSTRIAL SERVICE

* * *

Modern Welfare Work Avoids the Taint of Charity—A Factor in Efficiency

BY CLARIBEL G. HILL, Social Service Director, D. E. Sicher & Co., New York City.

The keynote of all industrial service or so-called welfare work is practicality. So far as service work is philanthropic it fails. The people with whom we are dealing are self-supporting and self-respecting and do not want charity. So far as its aim is uplift it fails. Oftentimes the uplifted is superior to the would-be uplifter in spite of the fact that opportunities for education and personal improvement have been less and obligations much heavier. Service work is a practical business outlay even if, like many other outlays, its value cannot be reckoned in dollars and cents. The manufacturer engages an expert machinist to repair his machinery. Why is it not just as necessary—even more necessary—to care for the human element? More and more we are realizing that we must treat the human element at least as well as the machinery. To obtain the largest output from a worker regardless of her future is no longer a business principle; the maxim of modern efficiency is the largest amount of work for the largest period with the least amount of wasted energy. To remove the round peg from the square hole and fit it into the round hole where there is no friction is now an essential part of modern efficiency.

A girl's place of business is her home for over one-third of her day; it needs to be clean, sanitary, well ventilated, well lighted, warm in winter, cool in summer, and properly protected against fire. Bodily comforts should be provided, such as clean, sanitary toilets, good drinking water, suitable dressing rooms and wash rooms.

Our service department was established July, 1913. As we have only one worker in our plant, she must be a graduate nurse as well as a social worker of executive ability. From observations made during the three years since the establishment of the service department, we would consider the most essential requisites for a service director to be the ability to see the other point of view or to put herself in another's place. She should be able to see the employer's and employee's point of view, and to reconcile these quickly and accurately. In starting the department our worker was given a month's time to visit other plants and pick out for her own use what she considered best in each, endeavoring to avoid the mistakes of others. During this month, space was set aside for a recreation hall, emergency hospital, school room and office of service director. The rent of this space is estimated to be about 6 percent of the rent of the entire plant.

The walls are done in a light tan, with a dado of a little darker shade; the ceilings are white; the woodwork of the office and emergency hospital is also white, while that of the school room and recreation hall is oak. The emergency hospital contains a small white iron bed, combination medicine cabinet and table, chiffonier for linens, service chair, folding steamer chair for extra use, and clothes hamper. The cost of this equipment was between $125 and $150, and, while it is very simple, we have found it quite adequate for 600 employees in a nonhazardous industry. The office is a very small place (too small), equipped with desk and filing cases. This equipment could probably be bought for less than $100. This room also contains the shelves for library books which are loaned by the New York Public Library. This arrangement is a mistake, as it overcrowds the office at library hours and gives the girls very little opportunity to select books. A separate room for this purpose where the girls would have opportunity to look over the books would be most advisable. The recreation hall is most simply furnished. There are reading tables and comfortable chairs; blue-cushioned seats around the pillars give the needed touch of color; pictures and flags form the decorations. A piano and phonograph furnish music for dancing at the noon hour.

Fig. 1. Emergency hospital, D. E. Sicher & Co., New York.

Games are also available and the leading magazines are on the reading tables. The dumbbells, wands, and punching-bag are also in this room, which is not a very satisfactory arrangement, on account of the noise. It would be much better to have a small reading-room and still another room for the gymnastic apparatus, but unfortunately our space is not large enough.

As this was an entirely new venture on the part of the firm, the service director tried to introduce as many "special services" as possible without incurring too heavy an expense. These at the beginning included library, vacations savings, umbrellas, dry stockings for rainy days, etc. The greater part of the summer was spent in becoming acquainted with the girls and the surroundings. Of course the nursing service made the first appeal, and it was through this that the friendly relations were established. In the fall the department made its debut at a luncheon given in the recreation hall to about fifty girls, the heads of departments and the representative girls from these departments. At this luncheon the number and kind of committees were decided upon. There were originally about twelve, but they have since been reduced to the following, which constitutes a much better working force. These are:

1. Suggestion committee, made up of employees representing each department and chosen by the department.

This committee constitutes the editorial staff of our monthly house organ, *Threads and Thoughts*. It meets with the firm once a month to consider all suggestions in the suggestion box. A prize of $2.50 is offered for each suggestion adopted.

2. General order committee, whose duty is to help with the cleanliness and sanitation of the factory.

3. Lunch committee, which helps with the supervision of the lunch counter.

4. Entertainment committee, whose purpose is to arrange our entertainments.

5. Fire brigade, the object of which is fire protection.

6. Inspection committee, for the purpose of a monthly inspection of the entire premises.

We consider the cooperation of committees of employees with the service director a very important feature of Service Work.

In the fall of that first year our lunch counter was installed at an estimated cost of $350 to $400. Unfortunately, we have not space enough for a lunch-room, but we

Fig. 2. Class room where employees of D. E. Sicher & Co. receive instruction in time paid for by their employers.

have a counter of the cafeteria type and individual trays are provided. The following is a list of the articles served at the lunch-counter:

Drinks: Coffee and tea, each 2 cents; tea without milk, 1 cent; milk, 3 cents.

Meats, etc. (each portion is about 2 ounces): Corned beef, 6 cents; ham, 7 cents; cheese and salami, each 5 cents; frankfurters, 2 for 5 cents; eggs, according to market prices.

Bread, three slices 1 cent; pie, one portion 3 cents; cake, one slice 1 cent; crackers; oranges and apples in season; ice cream, portion 3 cents.

In 1913 Mr. Dudley D. Sicher, being interested in the movement to eliminate illiteracy among factory employees, applied to the Board of Education for cooperation in organizing a class among the employees in his factory. In October a teacher was provided by the board and a class was formed under the direction of the principal of Public School 4. The class held sessions five days a week from nine to twelve in the forenoon, the time being divided into four periods of forty-five minutes each. The school year extended over about forty-two weeks.

The subjects taught are equivalent to the course in English provided for foreigners in the evening schools of New York City. The instructor devotes her efforts principally to teaching her pupils to understand, speak, read, and write the English language.

The total cost of this experiment to the firm, inclusive of space, light, heat, janitor's service, and loss of worker's time amounted to $672 for the entire school year; the cost to the Board of Education for instruction and materials used amounted to $560, making a total cost of $1,232 for the instruction of forty-two employees during a period of forty weeks.

The earning capacity of the girls attending the school increased steadily during the year, and, since wages are paid by the piece, this increase in earnings is a fair measure of increase in efficiency as workers.

Such elementary schooling as that given in the factory school is a condition of economic efficiency in any line of work. In order to determine as accurately as possible the immediate economic benefit derived from the simple instruction given in the school, a comparison of the average earnings per hour of ten girls enrolled in the class (illiterate at the beginning of the school) was made with the average earnings per hour of ten literate girls not enrolled. This comparison covered a period of thirty-two weeks preceding and sixteen weeks subsequent to the opening of the school. The average earnings per hour of the ten literate girls exceeded the average earnings per hour of the ten illiterate girls by 3.7 cents per hour during the thirty-two weeks preceding the opening of school. Each four weeks' period of school showed an increase in the earnings of the girls attending school, while the earnings of the other group remained practically stationary. During the last four-week period of the sixteen weeks of school the earnings of the literate girls exceeded the earnings of the girls attending school by only 0.9 cents per hour. If the average earnings during the thirty-two weeks preceding the opening of school be compared with the average earnings during the last four-week period, the increase in earnings for those attending school averages 2.7 cents per hour, which amounts to approximately $70 in a year. The profit to the employer is equally obvious. If these girls remain in the industry an average period of eight years, the aggregate increase in earnings for the ten girls amounts to $5,600. It is fair to assume that the employer's profit on the work represented by this increase in earnings is not less than 10 percent, or $560, which is over four-fifths of the total cost $672) of providing school for forty-two girls during a period of forty weeks. The cost to the employer for sixteen weeks' schooling for ten girls on this basis amounts to about $64, or less than one-eighth of the profit which he may reasonably expect to derive from the increase in efficiency of the workers. Even if a much smaller increase in efficiency be assumed, the factory school would still yield a high rate of profit. It is a paying investment. It pays the employer to cooperate with the school authorities in providing instruction for illiterate workers. We may also add that other benefits, such as the reduction of the liability to accident and the appeal to the workers' loyalty and good will, although these cannot be reckoned in dollars and cents, are nevertheless of even greater economic value to the employer. We do a great deal along educational lines in the way of lectures, musicals and classes and also by means of our monthly house organ, *Threads and Thoughts*, edited and published entirely by a committee of employees. A little folder giving a list of our forms of special service to employees is handed to each new employee.

In the foregoing I have endeavored to give a brief outline of our activities, their approximate cost and value to us. In conclusion I would say that probably the greatest

value of all of this work lies in the fact that it aids in the assimilation and Americanization of the population of foreign origin and brings these people into friendly relations with the better class of American workers.

INDUSTRIAL SERVICE IN TIRE FACTORY

* * *

Medical and Dental First Aid Furnished to Employees—Club Features for Their Benefit

BY R. E. LEE, Superintendent of Labor, Firestone Tire and Rubber Company, Akron, Ohio.

The Firestone Tire and Rubber Company employs over eleven thousand men. For the health, safety, and comfort of this large force, the company has organized a medical department, a dental department, an industrial service department, and a safety department.

The medical department of this company consists of a chief surgeon and four full-time factory physicians and a first-aid hospital with six graduate nurses. All applicants for employment are required to pass a physical examination prior to being accepted for employment and it is our plan to reexamine them about once a year thereafter. An applicant who is unable to pass the examination is advised as to the proper course to follow in eliminating physical defects, and if he complies with these suggestions we are always willing to give him employment immediately thereafter. The medical department also renders temporary aid

Fig. 1. Swimming pool in club house.

to men taken ill during working hours. We make no attempt to follow up this first aid by requiring or suggesting that the patients have the factory doctors continue treatment. In all such cases they are referred to their family physicians. Our hospital is used mostly for first-aid work, serious injuries being taken care of at our city hospitals. We are now building a new hospital where we will install a ward room with a number of beds so that emergency cases can be handled and given more direct attention by the medical staff. The company insists on employees reporting to the hospital for examination for the most trivial injuries, and we have prevented many minor injuries from proving serious by so doing.

We also have a dental clinic with two full-time dentists. Applicants for employment have their teeth examined by the dental department before being approved for work. The same method is followed as in the medical department with those whom it may be advisable to reject; they are advised to have their teeth put in proper shape and then apply for employment. The dental department renders first aid and also does light work such as cleaning of teeth, treatment of the gums and fillings, no attempt being made to do the heavier type of work such as bridge and crown work. No charge is made to employees for the services of the dental department. We have found that this department has been of decided advantage to the employees and the company, frequently preventing unbalanced conditions in the factory by obviating the necessity of employees leaving their work to obtain the necessary treatment.

Our industrial department, which is operated somewhat along the lines of welfare work, follows up absentees from work for the purpose of maintaining stability, eliminating undesirables and being able to promptly render assistance when emergencies require it.

Our safety department looks after the installation and

Fig. 2. Factory restaurant in club house for employees of Firestone Tire and Rubber Company.

maintenance of the usual safeguards for the prevention of accidents and the prevention of fires.

We also have, directly opposite the factory, a club house in which are bowling alleys, a modern swimming pool (Fig. 1) with shower baths, etc. The first floor of this building is devoted entirely to a dining room for factory employees (Fig. 2), the second floor to a dining room for office employees, and the third floor contains an auditorium and club room. The club building is 125 by 150 feet.

Gas-Poisoned Garment Workers

"Are garment workers, particularly pressers and ironers, subject to chronic poisoning by carbon monoxid gas, a poisonous constituent of illuminating gas, which may be discharged into the air of workshops by gas-heated appliances?" The U. S. Public Health Service, in a bulletin which has just been issued, answers this question in the affirmative. In 11.8 percent of the shops examined in a study of the hygienic conditions surrounding the cloak-and-suit and dress-and-waist industries in New York city the amount of carbon monoxid was excessive. In 38 percent of the establishments studied the odor of gas was perceptible. Fifty percent of the shops used ordinary gas irons only; 41.8 percent used irons heated by means of a mixture of gas and air under pressure. Only 2.4 percent used electric irons exclusively, and in 8.6 percent defective gas irons were found. The study of the gas tubes used showed that none were gas-tight and that most of them were in such a condition as to invite leakage. The constant breathing of carbon monoxid lowers the vital resistance of the body, thus paving the way for the infections of disease.

Doing nothing for others is the undoing of one's self. We must be purposely kind and generous, or we miss the best part of existence. The heart that goes out of itself gets large and full of joy. This is the great secret of the inner life. We do ourselves the most good doing something for others.—Horace Mann.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
44 Baxter Building, Philadelphia, Pa.
WILLIAM H. WALSH, M. D., Secretary.

Official Bulletin for April

COMMITTEE ANNOUNCEMENTS

The Committee on Preparedness.—This committee, which is of the greatest importance to the association and the country at this time, has been actively at work. For the information of all the hospitals in the country, Dr. Washburn, the chairman, sends the following extract from a letter received from Major General W. C. Gorgas, surgeon general of the U. S. Army:

"One other great service that your association can render this department is interesting the interns in the Medical Corps of the Army as a career. There are at this time 230 vacancies in the Medical Corps with about 100 qualified candidates. On July 1 there will be an additional 222 vacancies. The department desires to fill these vacancies during 1918. This can be done only through the cooperation of the profession, and through the aid of the American Hospital Association."

The committee on preparedness urges on members of the American Hospital Association the need to familiarize their trustees, the staffs of their hospitals, and particularly their interns and medical students with the opportunities and advantages offered by a career as an officer of the Medical Corps of the United States Army. Circulars of information will be sent from the office of the surgeon general to all hospitals represented by membership in the association.

Committee on Out-Patient Work.—A meeting of the committee on out-patient work of the association was held recently in Boston, all of the three members of the committee being present. Mr. Michael M. Davis, Jr., of the Boston Dispensary, chairman; Dr. R. B. Seem, of Johns Hopkins; and Mr. John A. Ransom, of the Central Free Dispensary, Rush Medical College, Chicago, are the members.

It is the desire of the committee to ascertain the chief problems which superintendents of dispensaries and out-patient departments are facing, the practical conduct of their institutions, and also to learn what interesting developments those concerned with the management of dispensaries see now under way or look to in the near future. With this in mind, the committee is writing to about 150 representatives of dispensaries and out-patient departments to ask their superintendents to indicate suggestions on the above lines. The dispensaries and out-patient departments of this country have been grouped into three classes, and each member of the committee has undertaken to communicate with a number of dispensaries in each class, namely: (1) the teaching out-patient departments of hospitals connected with medical schools; (2) the out-patient departments of hospitals that are not teaching hospitals; (3) dispensaries not connected with hospitals.

Committee on Hospital Standardization.—It will be remembered that this committee, of which Dr. Winford H. Smith is chairman, was named to act in an advisory capacity to an investigating committee of the American College of Surgeons.

Dr. Smith reports that thus far the activities of the committee have been as follows: One meeting has been called and the meeting was held in Cleveland, O., in conjunction with the director of the American College of Surgeons and a committee of the regents of the college. At that meeting the whole question of the proposed investigation of hospitals for purposes of standardization was discussed, also its scope, and a tentative outline of the organization and the plan of work was agreed upon. It was felt that one of the first things to be done was to obtain the best man available for the investigation. Several names were considered, but thus far nothing has been definitely determined.

EIGHTEENTH ANNUAL TRANSACTIONS

Those who do not receive copies of the transactions are requested to notify the secretary at once. It is expected that all copies will have been forwarded by April 25, but there may be a delay of a few days. Transactions will not be sent to those in arrears, so that if any member does not receive a copy, it will be well to look up this matter. It will also behoove members to make sure that their addresses on file in this office are correct. To avoid possible errors, please advise this office by postcard whenever changes occur.

RED CROSS BASE HOSPITALS

The American Red Cross is organizing as rapidly as possible base hospitals in all parts of the country in order that the United States may be prepared, if the exigency arises, to care for an unlimited number of sick and wounded soldiers. It is the usual practice to utilize an already existing hospital as a center on which may be built the personnel and equipment. Up to the present time there have been organized about thirty such hospitals, but not all are completely officered or equipped.

Approximately $25,000 is required to organize properly a regulation base hospital, and each community is expected to contribute the funds.

Base hospitals are organized in accordance with the regulation of the medical department of the U. S. Army and under the supervision of Col. Jefferson R. Kean, director general, Military Relief, American Red Cross.

Each hospital must provide for 500 beds and a personnel of 196, including 23 physicians, 2 dentists, and 2 laboratory assistants and 1 roentgen ray operator. The medical staff is divided into 1 medical director, 2 administrative officers, 1 quartermaster and 1 adjutant, 9 surgeons and 7 medical men. Included in the personnel are 1 chaplain, 50 nurses, 25 nurses' aids, 80 male employees and 15 civilian employees.

There are many cities in which base hospitals could and should be organized, and this office will be glad to furnish information or assistance to any hospital contemplating such organization.

REGARDING MEMBERSHIP

The officials of the association are exerting every effort to enroll those who are eligible to membership, and many letters have been sent out to prospects. It would be interesting to read some of the replies received. For instance, one hospital superintendent wrote: "I haven't time to attend the annual meetings." To this we reply, "Your inability to attend the conventions should not prevent you from giving your support financially. If others are ready and willing to give both time and money, you ought to be

willing to give money alone. You will find at the meetings and on the active committees some of the busiest men and women, and many of the most successful. If we could join in the great federation *all* of the hospital workers in America and Canada, there could be no progressive movement too great for the body to accomplish. We need the aid and cooperation of all who are eligible for membership, and it is selfish to assume that we have enough without *you*. Because other generous and public-spirited persons are willing to pull a load up hill is no reason why you should catch on and ride behind.

TRUSTEES MEETING

The April meeting of the board of trustees was held in Cleveland, Ohio. One session was held at 10 a. m. at the Hollenden Hotel, at which the routine business of the association was transacted, and an afternoon session was held with the local committee on arrangements for the purpose of discussing plans for the September convention. A more detailed report of this meeting will appear in the bulletin for May.

REGISTRATION BUREAU

We have had a number of inquiries for competent dietitians, but thus far the vacancies still exist because of our inability to find competent candidates. If any qualified dietitian who reads this announcement is interested, we should be pleased to receive an application stating qualifications and experience.

COMMERCIAL EXHIBIT

Floor plans have already been sent out to all concerns who responded to our first invitation, and at this writing it looks as though we shall have many more applicants than spaces. We are assuring all exhibitors that our members will give close attention to every display, and that they may depend upon at least one visit from every member. Please remember that these exhibits are educational and that even though you don't care to buy you are sure to learn something. Many members have expressed the opinion that the Bellevue-Stratford display alone was well worth the trip to Philadelphia. The commercial houses represented will assist us to make the convention a success, and all they ask in return is your careful inspection of their exhibits.

Meeting of Committee on Preparedness

A meeting of the committee on preparedness of the American Hospital Association was held in New York City, Saturday, April 7, 1917, at 10 a. m. Those present were Dr. Frederic A. Washburn, chairman; Capt. E. F. Leiper, U. S. N.; and Dr. W. G. Nealley, secretary.

The committee understands that the American Red Cross now has all the base hospitals which it desires. For this reason it was determined that no action on this subject was indicated. The committee has already notified the director general of military relief of the American Red Cross of its desire to cooperate in every way with that association.

The committee next took up for consideration the matter of the expansion of the hospitals of the country, and made the following recommendations:

(*a*) That the American Red Cross establish supply depots on which the hospitals may draw in emergencies, either military or civil, if called on to expand. The committee makes this recommendation in the interest of economy and efficiency and to avoid the duplication of reserve medical supplies by hospitals and other associations. If the Red Cross desires any assistance from the committee it is at its service.

(*b*) That the hospitals of the association immediately make a survey in detail of their facilities for the accommodation of patients, and how they may expand, the survey to include:

1. Alteration or extension of buildings.
2. Location of additional beds.
3. How all necessary supplies may be provided promptly in case Red Cross depots are not available.
4. How to secure additional personnel.

(*c*) That circular letters like those appended be sent to members of the staff and physicians and nurses of the community.

(*d*) That hospitals which have not already done so train nurse aids under the auspices of the Red Cross and have a list of these women available. The committee urges all hospitals to fill out immediately and return the inventory forms sent out by the Council of National Defense. The committee endorses and urges on the hospitals of the association the recommendations of the surgeon general of the army, with regard to interesting the interns in the Medical Corps of the Army as a career.

It was resolved that copies of these proceedings be submitted to the president of the American Hospital Association for his approval and be sent to the headquarters of the American Red Cross and to the secretary of the American Hospital Association for publication.

CIRCULAR LETTERS RECOMMENDED TO BE SENT TO STAFF MEMBERS AND OTHER PHYSICIANS, AND NURSES

Dear Doctor:

A considerable number of the staff of the hospital are members of the ——— Hospital Red Cross Hospital Unit, or belong to the Medical Reserve Corps or Officers' Reserve Corps of the Army or Navy. Should these men be called away for active military service, there is the probability of a shortage in the working staff of the hospital, especially as it may be necessary in an emergency to increase the number of beds in the hospital. I am therefore writing to ask you to answer the following questions:

Would you, if the emergency arises, be willing to take a temporary appointment at the hospital?

If so, could you give regularly from two to three hours' time each forenoon?

Please indicate by numbers the department you would be willing to serve in, in the order of your preference.

Medical
Surgical
Orthopedic
Genito-Urinary
Neurological
Throat
Children's Medical
Syphilitic Department
Dermatological

Very truly yours,

.....,
Superintendent.

Dear Doctor:

A considerable number of the staff of the hospital are members of the ——— Hospital Red Cross Base Hospital Unit, or belong to the Medical Reserve Corps or the Officers' Reserve Corps of the Army and Navy, or are in the National Guard. Should these men be called for active duty it is important to know who will be available for their regular and perhaps extra duty at the hospital. I shall therefore be very much obliged if you will answer the following questions, and return this letter to me:

Are you a member of the above organizations?

If not, would you be willing to do extra work in your own department?

Would you be willing to do work in departments other than the one to which you now belong?

If so, which ones?

Very truly yours,

.....,
Superintendent.

The whole world is aghast at the horrors of the European war with its murderous slaughter, but how much less horrifying is the loss of life from preventable sickness and accidents occurring in America?—Kansas State Board of Health.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

JOINT ANNUAL CONVENTION OF AMERICAN NURSES' ASSOCIATIONS

* * *

The Three National Associations to Discuss Problems of Mutual Interest

The National League of Nursing Education, the American Nurses' Association, and the National Organization for Public Health Nursing are to hold a joint meeting in Philadelphia this year, April 26 to May 2, inclusive. The headquarters are at the Bellevue-Stratford Hotel, Broad and Walnut Streets.

Heretofore the associations have had concurrent sessions, and nearly all who attended have complained that they could neither be in three places at once nor afford to miss anything. Therefore, as an experiment, the joint program committee has taken literally its instructions to provide a joint meeting. The plan is to have subjects of mutual interest discussed at nearly every session, one paper being contributed by a member of each association. After many of these sessions, the meeting will break up into three separate round tables, one for each of the associations, at which the papers presented will be discussed from the points of view of these organizations. Among the subjects of sessions are:

Two Problems of Administration (duties of directors and methods of raising funds); papers by Miss Gertrude W. Peabody and Miss Ethel Rupert.

Some Practical Problems of Visiting Nurses in the Bedside Care of Patients; papers by Miss Rose Collins, Miss Hermina Stokes, and (in collaboration) Miss Edith Swaine, Miss Agnes M. Sjolund, and Miss Clara Johnson.

Some Modern Demands on the Graduate Nurse; papers by Dr. George Goler and others to be announced.

The Problem of the Small Hospital; papers by Miss Marie Brown, Miss Claribel Wheeler, and Miss Mary S. Gardner.

Health Insurance; papers by Mr. Miles Dawson and Miss Mary Beard.

Maternity Nursing; papers by Dr. Edward P. Davis and Miss Julia C. Lathrop.

Medical Social Service; papers by Miss Ruth Emerson and Mr. Howell Wright.

The Training and Status of Attendants; papers by Miss Edith M. Ambrose and others to be announced.

The Need of Endowments for the Promotion of Nursing Education; papers by Miss Mary Wheeler and another to be announced.

Health Centers; papers by Miss Elizabeth Ross and Dr. Robert H. Bishop.

The Relation of Clinical Records to Vital and Morbidity Statistics; papers by Dr. Louis Dublin, Dr. Hugh Auchincloss, and Miss Florence Wright.

Problems of Teaching; papers by Prof. Ambrose L. Suhrie and Anne Harvey Strong.

LEADERS IN WORK THERAPY FORM SOCIETY

* * *

Conference at Clifton Springs Leads to Organization of a National Society for the Promotion of Occupational Therapy

The conference held at Consolation House, Clifton Springs, N. Y., March 15-17, represented the first effort in the United States to organize the leaders of the work in occupational therapy and the reeducation of the sick and dependent. Those present were: Dr. W. R. Dunton, Jr., of the Sheppard and Enoch Pratt Hospital, Towson, Md., editor of the *Maryland Psychiatric Quarterly*, author of "Occupation Therapy"; Mrs. Eleanor Clarke Slagle, director of the Occupational Experiment Station of the Illinois Society of Mental Hygiene; Miss Susan C. Johnson, director of occupations on Blackwell's Island, late member of the Technical Division in the Philippine Islands; Miss Mabel G. Newton, secretary of Consolation House; T. B. Kidner, vocational secretary of the Canadian Military Hospitals Commission; and George Edward Barton, A. I. A., director of Consolation House, chairman of committee on occupations at the Papenvoort Model School in Belgium, author of "An Analysis of Conditions Influencing the Building of the Myron Stratton Home," and "Occupational Therapy."

Addresses were made by Dr. Dunton on "The History of Occupational Therapy"; by Mr. Barton on "The Therapeutic Value of Drawing and Modeling, and Preparation of Patients for Inoculation of Bacillus of Work"; by Mr. Kidner on "The Difficulties and Results of Reeducation of the Crippled Soldier in Canada"; by Mrs. Slagle on "The Work of the Occupational Experiment Station in Chicago"; by Miss Johnson on "The Occupational Work on Blackwell's Island." A paper was also presented by F. B. and L. M. Gilbreth on "A New Occupation for the Crippled Soldier—The Conservation of the World's Teeth," illustrated by photographs of a one-eyed, one-armed, partially deaf, legless man happily and profitably engaged in dental nursing.

The conference resulted in the formation of a National Society for the Promotion of Occupational Therapy, with the following officers: president and chairman of committee on research and efficiency, George Edward Barton, Consolation House, Clifton Springs, N. Y.; vice-president and chairman of committee on installations and advice, Mrs. Eleanor Clarke Slagle, Hotel Alexander, Chicago; secretary, Miss Isabel G. Newton, Consolation House, Clifton Springs, N. Y.; treasurer and chairman of committee on finance, publicity and publications, Dr. W. R. Dunton, Jr., Towson, Md.; chairman of committee on admissions and positions, Miss Susan E. Tracy, director of Experiment Station, Jamaica Plain, Mass. Mr. Kidner accepted the chairmanship of the international committee, with headquarters in Ottawa, whose duty it will be to keep this society in touch with those already existing or being formed abroad.

The following notable workers in occupational therapy were elected to honorary membership: Dr. Jules Amar, for France; Dr. Marcus Paterson, for England; Senator the Honorable Sir James A. Lougheed, K. C. M. G., for Canada; and Mr. Frank B. Gilbreth for the United States.

It is the purpose of the society to provide information and assistance to all who are desirous of teaching the work or who are interested in it. The common method of proposing and seconding an applicant for admission has been discarded, an interest in the work being almost the only requirement.

The dues, including the *Maryland Psychiatric Quar-*

terly, which will be the official journal of communication, are as follows: active members, $2; associate members, $1; sustaining members, $10. Applications for membership should be made directly to Miss Susan C. Johnson, care of the superintendent of the City Home, Blackwell's Island, New York.

Consideration was also given to the subject of offering advice and assistance to the Federal Government, for the introduction of reeducational treatment in the military hospitals in event of war.

From the personnel of the committee it would appear that the interests of the society are broad and include work among both the physically and the mentally handicapped. Efforts are being made to accumulate information relating to work among the tuberculous, crippled, insane, feeble-minded, cardiac cases, etc., as well as fatigue and efficiency studies, in order to give out such information to those who desire it. It is suggested that all who are interested communicate with the secretary, Miss Isabel G. Newton, Consolation House, Clifton Springs, N. Y.

PUBLIC HEALTH AND PUBLIC CHARITIES

* * *

Announcement of the Meeting of the National Conference of Charities and Correction

A realization of the importance of health seems to have spread through the program of the National Conference of Charities and Correction like an infection. The outline of discussions at the forty-fourth annual meeting of the organization, to be held at Pittsburgh, June 6 to 13, has just been issued from the permanent office at Chicago. The division on health will be under the chairmanship of Professor C. E. A. Winslow, of Yale University, and the vice-chairmanship of Dr. H. M. Bracken, secretary of the Minnesota State Board of Health.

The modern public health program will be featured by the chairman in his address. This idea seems to characterize also the discussions scheduled to occur at four other meetings under his direction. "What the Social Worker Has Done for Public Health" will be the topic of Homer Folks, of New York, a former president of the National Conference.

The campaign against infant mortality will be brought to the attention of the conference by Miss Julia C. Lathrop, head of the Federal Children's Bureau, and Dr. Charles E. Terry, late health officer of Jacksonville, Fla. Prof. Graham Lusk of Cornell University Medical College will speak on hygiene and economy in diet. Coordination of health activities appears prominently in the program outline. Three phases will be presented, respectively, by Franz Schneider, Jr., Gertrude Seymour of New York, and Wilbur C. Phillips of Washington; the apportionment of the health budget, the relation between social workers and public officials and the health center plan. Another session will be devoted to public health nursing.

"The United States is the only great industrial nation without compulsory health insurance," Professor Irving Fisher has said recently. In view of this need, the National Conference has provided an entire division on the subject of social insurance for its meetings at Pittsburgh. The chairman of this series of discussions is Max Senior, of Cincinnati. The program has been arranged to occur the latter part of the conference period so as to accommodate medical men who attend the meeting of the American Medical Association in New York.

The section on mental hygiene will convene under the chairmanship of Dr. Owen Copp of Philadelphia. His speakers include Dr. Stuart Paton of Princeton, Dr. E. E. Southard and Dr. Harry C. Solomon of Boston, Dr. C. Macfie Campbell of Johns Hopkins University, Dr. A. J. Rosanoff of New York, and Dr. E. Bosworth McCready of Pittsburgh.

In other divisions of this extensive program there will occur discussions of illegitimacy, of diagnosis of crime, of state aid to dependent mothers and of negro migration to northern cities. There will be separate meetings of groups interested in hospital social service, in social hygiene, and in antituberculosis work. It is likely also that a special housing institute will be held.

The conference at Pittsburgh will continue for one week. Thirty-five hundred delegates are expected to attend. The president is Frederic Almy, secretary of the Charity Organization Society of Buffalo. The prevention of human distress through the operation of all sorts of agencies has been adopted as the main topic of the meeting.

CHILD LABOR AND THE WAR

* * *

Child Labor Conference at Baltimore Urges Standards for Child Protection Be Maintained

The Thirteenth National Conference on Child Labor closed its sessions at Baltimore with conviction firmly established that, whatever war measures this country is obliged to adopt, there should be no let-down in the standards for child protection. Time and again this note was struck as Julia C. Lathrop, Dr. Stephen S. Wise, Dr. Felix Adler, and Owen R. Lovejoy pointed out the vital necessity of continuing all efforts to further our American democratic ideals, even if at the same time this country must take part in the fight for world-wide democracy. The lowering of standards abroad was used by Miss Lathrop and Mr. Lovejoy as an illustration of the facts that the excitement of war is fatal to the training and development of the younger generation and that social advance is retarded when childhood is impoverished. Dr. Felix Adler spoke of the fact that the tide of democracy is rising in Europe and that the people there will turn to us for help in the solution of their problems of free government. "In some respects we can confidently point to our example," said Dr. Adler, "but do we want Russia to adopt along with other institutions our system of child labor?"

The rest of the sessions were devoted largely to a discussion of the measures for which the federal child labor law has paved the way. Enforcing officials, Hon. John Price Jackson, of Pennsylvania, and Hon. Charles J. Fox, of Maryland, expressed their satisfaction that the federal law would reach some obstinate forms of child labor that the states had not been able to handle—the canneries of Maryland, for instance—and that the cooperation of state and federal enforcing officials would lead to a much more thorough enforcement of child labor laws. Miss Lathrop, after explaining the steps that had been taken for the administration of the law, said she believed the federal statute would greatly stimulate legislation in the states.

Forms of child labor that are to be found in every state in the Union and yet will not be touched by the federal law were discussed at some length. The use of children in the making of motion picture films was described by Miss Jeanie Minor of the New York Child Labor Committee as a form of child employment in need of nation-wide regulation. Following an investigation of the kind of work these children are called upon to do, New York passed a law forbidding their employment without a permit. As a result the producing companies are moving their studios

to New Jersey, where there is no regulation. At the session devoted to the agricultural problem, Mrs. G. H. Mathis, field agent and agricultural lecturer of the Alabama Bankers' Association, said the trouble in the South was that the farmers were so hopelessly poor they were obliged to use their children. The solution, she felt, lay in teaching these people how to run their farms so as to make them pay and then the children would be sent to school. Dr. Edward N. Clopper, of the National Child Labor Committee, spoke of the agricultural problem as the illusion of the near-so-near to us that we are unable to see it.

Other ways for making the world a better place for children were suggested by C. C. Carstens, of Boston, and Roy Smith Wallace, of Philadelphia, who advocated the codification of all child welfare laws in order to avoid the present confusion and duplication, and by Dr. John Dewey and Hon. P. P. Claxton, who emphasized the need of federal aid to elementary education as a means of equalizing the educational opportunities of children throughout the country.

OHIO HOSPITAL ASSOCIATION

* * *

Third Annual Convention to Be Held in Columbus—Interesting Program Promised

The Ohio Hospital Association will hold its third annual convention in Columbus, Memorial Hall and Hartman Hotel, May 22, 23 and 24, 1917. The tentative program includes papers on "State Resources and Needs for the Care of the Sick Who Cannot Be Properly Cared for in the General Hospital," by Dr. Robert G. Paterson, secretary the Ohio Public Health Federation; "The Place of the Individually Owned and Operated Hospital in the Community," by Dr. Ben McClellan, member State Medical Board, Xenia; "The Building of the Modern Hospital—From the Viewpoint of the Superintendent," by Mr. F. E. Chapman, superintendent Mount Sinai Hospital, Cleveland; "From the Viewpoint of the Architect," by Mr. C. F. Owsley, architect and designer of St. Elizabeth's Hospital, Youngstown, and others; "From the Viewpoint of the Visiting Staff," by Dr. Andrey Crotti, member medical staff, St. Frances Hospital; "From the Viewpoint of the Nurse Staff," by Miss Harriet L. Friend, chief nurse examiner, State Medical Board; "Care and Control of Hospital Linen," by Dr. A. R. Warner, superintendent Lakeside Hospital, Cleveland; "How to Meet Recent Increased Cost of Hospital Operation," by Mr. P. W. Behrens, superintendent the Toledo Hospital, Toledo; "Labor-Saving Devices in Hospitals," by Sister M. Genevieve, St. Elizabeth's Hospital, Youngstown; "Economy in Preparation and Saving of Food," by Miss Lulu Graves, dietitian Lakeside Hospital, Cleveland; "The Hospital's Responsibility for Giving Out Prompt and Reliable Information," by Mr. F. S. Bunn, superintendent Youngstown City Hospital, Youngstown; "The Importance and Need of State-Wide Hospital Organization," by Mr. Howell Wright, secretary Cleveland Hospital Council, Cleveland; "Qualifications Demanded of the Nurse as a Hospital Superintendent," by Miss M. A. Lawson, Akron City Hospital, Akron.

MEETING OF ALIENISTS AND NEUROLOGISTS

* * *

Program of Interest to Hospital Administrators—Outline of Topics to Be Discussed

The Annual Meeting of the Alienists and Neurologists will be held under the auspices of the Chicago Medical Society, Monday, July 9, to Thursday, July 12, 1917, in the Red Room of the Hotel LaSalle, Chicago. Dr. George A. Zeller will act as chairman.

The morning session, Tuesday, July 10, will be of particular interest to hospital people. The topics for that session are: state hospital architecture—exhibition of plans and photographs; state hospital custody—administrative problems; hospitals for cure, research, and prevention; colonies for the productive insane; therapeutic employment and reeducation. The topics for the other sessions are: Tuesday afternoon, general paralysis of the insane; Wednesday morning, manic depressive insanity and the minor psychoses, delirium tremens, and traumatic mental disturbances; Wednesday afternoon, legal aspects of insanity; Thursday morning, dementia precox; Thursday afternoon, epilepsy and the feeble-minded.

The program will be mailed June 28, with abstract of each paper. Contributors to the program are solicited. This is a society without a membership fee. Address Secretary Alienists and Neurologists, Room 1218, No. 30 North Michigan Ave., Chicago.

The Social Adjustment of the Unusual Child

The term "unusual" is here used to designate those children who cannot be classified as feeble-minded, yet whose social adjustment is abnormal. Knight, who is superintendent of the New England Home for Little Wanderers, says that some years ago he was impressed with the alarmingly large number of failures in dealing with children. He found that the methods used in dealing with unusual children were analytic, not synthetic. "Analysis alone without subsequent synthesis does not give a real diagnosis. In other words, having learned of intelligence, heredity, environment and all the rest, who is to assemble all this knowledge and tell us about the whole child? And then, inasmuch as our aim is to discharge children one hundred percent well in every department of the child's being, it is quite essential that someone should be responsible for unity of treatment. The task of synthesizing cannot safely be left with any one of a group of enthusiastic specialists working in fields often remote from each other." A plan has therefore been worked out for the study of unusual children by the laboratory method in the hands of a staff of pediatricians, psychiatrists, psychologists, trained social workers, graduate nurses, and trained attendants, all under one roof and one management. "A unified diagnosis is made of every child. . . . We have sufficient hospital space with modern equipment for the treatment and care of certain definite physical troubles, such as adenoids and tonsils, middle ear, certain functional and other heart troubles, scoliosis, enuresis, and especially underweight." The aim is, with this collective diagnosis in hand, to unify the findings and adjust the child "to society, to life in his home, in his neighborhood, in his community, and so on in ever-widening circles until fulness of satisfactory life in the world is reached." While an institution with all the staff and equipment under one roof and one management offers advantages for work of this character, Knight believes that such an institution is not absolutely necessary for the doing of work which is very well worth while. His discussion of the problem appears in a recent number of the *Albany Medical Annals*.

There's no work so tirin' as danglin' about, and starin', and not rightly knowin' what you're goin' to do next, and keepin' your face in smilin' order, like a grocer on market day.—George Eliot.

THE MODERN SANATORIUM

Conducted by ALBERT WARREN FERRIS, A.M., M.D.
Saratoga Springs, New York.

Please address items of news and inquiries regarding The Modern Sanatorium to the editor of this department, Saratoga Springs, New York.

Baths and Bathing

PAPER I.

BY ALBERT WARREN FERRIS, A. M., M. D., Saratoga Springs, N. Y.

No one goes to Paris without visiting the Latin Quarter, on the left bank of the Seine; and everybody who visits the famous students' realm familiarizes himself with the Boulevard St. Michel by day and by night. If he be fortunate enough to carry the proper letters of introduction, or be of the medical faculty, which fraternizes with the actor, the painter, and the writer, he may enjoy the rare pleasure of unreserved admission to the inner circles of the camaraderie of genius, whereby he will secure opportunities to attend unique gatherings and see some of the quaint and bizarre and altogether fascinating decorations and embellishments of the lodgings of the students, and learn from them of the best bits of architecture in the city.

The "Boule' Miche' " leads one to the Hôtel de Cluny, standing at its junction with the Boulevard St. Germain, near the Ecole de Médecine, a quaint, somber, and ancient structure erected in 1490, and used successively as a priory, a palace, and a museum—a remarkable example of late-Gothic architecture. One recalls many features of the interior of the Hôtel de Cluny, but none more distinctly than the remains of the *thermae*, or old Roman baths, originally erected about 300 A. D., in the ancient palace of the emperors, and enclosed by the walls of the Benedictine Abbey of Cluny in 1340.

The Romans knew a thing or two, including the facts that baths conduced to health, and that they were inseparable from luxury. A. C. Peale of the U. S. Geological Survey is authority for the statement that for several centuries the principal treatment of disease by the Roman practitioners was by means of the bath. Immersion in waters of various springs at various temperatures during the period of self-indulgence and luxurious living that preceded the fall of the "mistress of the world" was no new thing. Through the entire domestic history of the Romans are found allusions to the use of the bath. Certain of the Roman emperors, to gratify the people, erected *thermae*, consisting of baths, gymnasium, library, and sometimes a theater under one roof. Witness the constructions by Agrippa, Nero, and Titus. Public baths were constructed as early as 312 B. C. Apparently, as the glorious empire extended over conquered territory, no mineral springs were found that were not developed and equipped for enjoyment and remedial use. Ruins of ancient Roman baths appear in Africa, in Asia Minor, in France, in England. Since the ruined buildings were not restored by the conquerors who dismembered and appropriated the territory of Rome, one must infer that they and their people were not accustomed to bathing on any other than Saturday nights. Indeed, one learns that in the ninth and tenth centuries the knights of other countries whom we glorify and idealize were not refined and fastidious, but decidedly shocking as to table manners and care of the person. They profited not a whit by Roman example or Roman mythology. For legend and myth bore testimony to the delights of the bath for the preservation of health and charm, for refreshment after the heat of the chase, and as a vehicle for general sociability.

Was not the chaste Diana conserving the classicality of her contours and enhancing the brilliancy of her velvet skin by a hydrotherapeutic treatment in a shady pool in the forest, when prudence impelled her to set the dog on Actaeon? And surely it was Hesiod, that delightful gossip among the Greek historians, who whispers to us the details of the morganatic alliances of Zeus, and assures us that, in very truth, Aphrodite Anadyomene (the Roman Venus Cytherea) gracefully emerged from the foam that tipped the waves of the salt sea, as fully equipped for conquest with her voluptuous blandishments as her contemporary Athene, who sprung fully armed from the brain of Jove. The properties of saline waters thus attested have been proved empirically beyond peradventure by pure scientists, open-minded explorers, and doubting Thomases "many a time and oft" during the centuries of actual world-history that have elapsed since the misty ages of the legendary past.

Bathing in the river Nile is mentioned in very early historical records as a religious ceremony. Gay and festive were the Egyptians, fond of good cheer and of all the agencies of pleasure, including both rational enjoyments and the false and fleeting joy caused by intoxicants, with their corollary of the subsequent morning of contrition. But more evidence is obtainable concerning the use for bathing of the waters of the great stream of Northern India, the Ganges, the sacred river of the Hindus, issuing from an ice cave in the Himalayas and running a course of 1,500 miles to the Bay of Bengal. By the Hindu it was held in veneration as the cleanser from sins, and if one died and was interred on its banks, the entrance to Paradise. Two and half miles above sea-level and ten miles from its source stands the first temple on its margin, Gangotri, with its ghat, or flight of steps, passing down into the water for the convenience of the pious pilgrim bathers. Here and there along its course are temples, shrines, and ghats, the most important being those of holy Benares. No bathing pavilions ornament the delta of the river, where roves the man-eating koomiah crocodile, whose intimacy at the immersion ceremony is regarded as a detriment and unnecessary.

Persia early had such luxurious baths as to excite the wonder of its conqueror, Alexander the Great.

The Greeks, probably first the Athenians, enjoyed bathing and constructed baths; but to no such extent as the Romans. Homer tells us of the warm baths and massage enjoyed by athletes and warriors, after exercise and combat. And was it not the fair Nausicaa who directed that a warm bath be prepared for Odysseus, when the grim, relentless breakers of the ocean, at whose side the Phaeacian princess was playing hand-ball with her attendant maidens, hurled him up like a bit of kelp, exhausted and nearly speechless, on the Scherian beach at her feet? But the Greek who habitually employed warm baths was considered by public opinion exactly as effeminate as the sybarite who carried his cushion with him to the theater, whose seats were cold benches of stone—an object of de-

rision, even though the drama dragged its slow length along through several hours a day for three days. The best, as well as the many, to use the Greek terms, both men and women, commonly swam in the rivers or in the *piscinae*—the artificial pools—and used cool or cold baths in their private bath houses.

The Romans constructed establishments containing a dressing room, a room for oiling or anointing, a cool room (in which was the cool bath), a warm room, a hot room with a warm bath, and a sweat room, adopting from the Greeks the *laconicum*, or hot-air bath. The usual procedure seems to have been for the bather to sweat in the *tepidarium* with his clothes on, then to remove them and be anointed, then to pass on to the *calidarium*, or hot room, for further sweating. Next he entered a room where water, graduated from warm to cold, was showered over him from above his head, following which cooling process he was completely scraped with the strigil, and lastly masséed and anointed.

Restorations of excavated ancient Roman *thermae* and *balneae* give convincing evidence of the facilities for accurate, progressive application of temperatures, the completeness of equipment, and the variety of treatments, all taken as part of the luxury and delight which was completed by courts for hand-ball exercise, lounging rooms, conversation rooms for philosophers and their disciples, and for literati, and a stadium for games, with spectators' benches. Witness the accounts of the baths of Caracalla, of Diocletian, of Pompeii.

The ancient Roman bath régime described was designed partly for cleanliness, although no soap was available, oils and pomades or flour of lentils being used as a detergent, the strigil, or scraper, assisting greatly in the removal of accumulations.

In those days the curfew bell ringer would needs have been a stalwart person to have survived close muscular argument, had the curfew ordinance been instituted during the palmy days of "the eternal city"; but the people demanded and gladly heard the notes of the bells on the public bath houses, which were rung when hot baths were available for the day. As time went on, license crept into the public baths, originally instituted with strict separation of the sexes. They became disreputable, and hence were taboo by the early Christians. Certain supreme pontiffs of the Church of Rome had proclaimed that baths might be taken for cleanliness, but not for pleasure. But Pope Gregory, with refreshing good sense, declared bathing on Sunday not to be sinful.

[To be continued.]

A HEALTH EXAMINATION AT SCHOOL ENTRANCE

School Health Examination a Neglected Opportunity for Education of Parents and Teachers

The entrance on school life presents an opportunity for hygiene which has been strangely neglected, writes Dr. William H. Burnham in a recent number of the *Journal of the American Medical Association*. This opportunity, Dr. Burnham believes, has vast possibilities. It is not only an opportunity to determine whether the child is in condition to do school work and to have the child put into good physical condition, but also an opportunity to educate the parents and the teachers.

The teachers and the parents, as well as the school physician, should participate in the child's examination. This examination, Dr. Burnham says, should be in the nature of a conference of experts. The school physician should be not only a medical expert, but also an expert in school hygiene. The teacher, if professionally trained, is to some extent an expert in school work. The parents, having watched and trained their own children, are in a certain sense experts in regard to them.

The examination should include: (1) a test of physiologic age; (2) a test of psychologic age; (3) a test of the general health conditions; and (4) a history of the morbidity of the individual child. The consensus of opinion is that children should not attend school before the completion of the sixth year, and children who are imperfectly developed, weak, or diseased should be excused from entering school then. The determination of the child's mental development is as important as the determination of its physiologic ability to stand school work. This psychologic examination should not be narrowed down to pedagogic purposes; it should include observations of the child's spontaneous behavior on the playground and with playmates, and reports from the parents on the child's interest, ability to get on with other children, faults, virtues, knowledge, interests, etc. The health test should include condition of teeth, throat, nasopharynx, eyes, ears, etc. The morbidity history should record as far as possible all diseases that the child has had, and especially such diseases as rickets, scrofula or any form of tuberculosis, convulsions, measles, or any other "children's disease."

Better cooperation between the home and the school might be secured, Dr. Burnham points out, if such an examination as described were tactfully made by fairly intelligent school physicians and teachers with the aid of parents. The cooperation of the parents would be more readily secured if the school authorities, instead of taking the attitude of critics and outside experts, were to recognize the parents as interested and responsible parties. The examination would tend to educate parents because it would show that school work was not something to be taken up lightly and dropped again when something lucrative is offered to the children, but an important opportunity and privilege for which the child must present the credentials of health and some degree of mental and physical development. Such education of the parents would tend to make the work of the teacher, the medical inspector, and the school nurse easier, because the importance of the latter would be better understood. On the other hand, the plan "would tend to give teachers the right attitude toward the home and toward children. Teachers should always recognize the authority, the responsibility, and the general expert character of the parents in the education of their own children. The numerous exceptions to this can be treated all the better by one who recognizes this general truth. On the whole, perhaps we may say that parents are not much more inefficient than we teachers, and certainly we can learn from a child's parents in regard to the best method for his education."

Dr. Burnham's thoughtful and interesting paper has one fault: it contains so much information that it is likely to dismay a good many readers. Notwithstanding, it is well worth study by conscientious teachers and parents, as well as by school medical inspectors. Copies of the paper can be obtained on application to the Massachusetts Society for Mental Hygiene, 313 Ford Building, Boston, Mass.

That the gentle, kind mosquito is a most offensive bird and carries us malaria, some natives never heard. If you intimate such nonsense, they'll solemnly declare they get *their* chills and fever from miasm in the air.—Illinois Health News.

QUERIES AND ANSWERS

Morris Chairs for the Wards

To the Editor of THE MODERN HOSPITAL:

One of our best friends wishes to give us morris chairs for our wards because, as he says, the free patients as well as the rich ought to have comfortable chairs when they can be out of bed. But all these chairs that we know of have germ-catching seats and backs, and we are a little afraid of them. He laughingly suggested that he would be willing to leave the decision to THE MODERN HOSPITAL; please decide for us. A CANADIAN HOSPITAL.

The stuffing in the seats and backs of most morris chairs is curled hair, which is easily sterilized in any disinfector, if you have one; both these cushions are removable and can be covered with linen cases. It would seem that these two protections should make them quite safe. But if you want still further protection, why not buy the all-metal morris chairs, white enameled? The seat and back are in separate sheets of stamped metal, molded to fit the body most comfortably. They are quite as adjustable as those of wood, and can be cleaned with hot water and a cloth.

Interpreters for Hospital Patients

To the Editor of THE MODERN HOSPITAL:

In our free wards are many patients who cannot express themselves well in English, and some of them do not speak any of the common languages, such as French or German. Our doctors think some arrangement should be made for interpreters. What do other hospitals do about this? A MASSACHUSETTS HOSPITAL.

As your hospital is in a rather large city, there are probably consular representatives of nearly all nations there, and these will always be glad to send one of their office assistants to interpret for you. Most hospitals employ foreigners as domestics and the lower-paid labor. Many of these people speak languages and dialects other than their own. You should make a definite survey of your hospital people and make up a schedule of them to show the languages you have among your people. This schedule, kept in the main office, can be consulted by physicians, nurses, and patients, when interpretation is wanted. It is very important that patients be enabled to converse intelligently about themselves and in their own language.

Individual Gifts of Furnishings

To the Editor of THE MODERN HOSPITAL:

Do you think it wise and desirable to have individuals furnish private rooms in a new hospital according to their own taste and without respect to the general harmony of treatment in the furnishings of the hospital as a whole?

Several well-to-do people in our community are willing, even anxious, to do this; but we have rather feared the experiment. AN OHIO HOSPITAL.

We think it an excellent plan to have individuals furnish rooms for which they give the money; when they do so, you are nearly always sure of a permanent interest in the hospital on their part, and they pretty nearly always become permanent subscribers when the hospital needs money. But you must set a few inflexible rules; for instance, no upholstered furniture must be installed, no rugs that will not admit of cleaning and disinfecting, no plush or damasks, and no furniture too heavy to be easily moved. Grillwork and fancy patterns of carving cannot be admitted in bed-head or foot or in chairs or dresser facings. It seems to us that these details will be easily controlled, especially in these days when simplicity in patterns is "all the style."

Chemical Wall Stains

To the Editor of THE MODERN HOSPITAL:

Some of our walls are constantly changing color to a dirty, streaky yellow, no matter how many coats of paint or enamel we put on. The outside red brick facings are also showing something of the same streakiness of white. Our architect says it is the soda or lime coming through from the plaster and out of the brick itself. It is very ugly and annoying, and we wish very much that we could do something about it; can we cure it?

AN ILLINOIS HOSPITAL.

We have all had that trouble, and patience is the best cure. Don't let the streaks get on your nerves as well as on the walls. They are not an incurable disease as affecting the walls, but they are a loathsome and distressing ailment when they attack the nerves; moreover, they are dreadfully catching.

Seriously, there is not very much to be done just now; your building is probably less than three years old; presently all the obnoxious chemical material will have leached out of the brick and plaster, and then you can tidy up with some paint remover and new paint. A sandblast machine or a carborundum polish applied by hand from a scaffold will make your exterior like new.

The Laboratory in a Small Hospital

To the Editor of THE MODERN HOSPITAL:

Ours is a very small hospital, and is poorly financed, but it is filling a very great need in our community. We cannot afford a pathologist, and yet our doctors feel that we should have someone who can do urinalysis and the simpler laboratory technic, such as blood-counts, the Widal, etc. We agree with them, but what are we to do? Our doctors object to one of their own number doing this work for the others, on some part-time pay arrangement; they say that this one man is in competitive practice with them and this would give him too much information about their patients. The only other way we can think of is to give a short training to one of our best nurses and let her do this work. Would this be a practical solution?

A WESTERN HOSPITAL.

Your last proposal will not do at all; a nurse without medical training, or several years' training as technician in a good laboratory, under competent direction, would be worse than no pathologist at all, because her work would obscure rather than shed light on pathological conditions, and would mislead the doctors.

The way for you to do is to educate the medical men up to allowing the one qualified medical staff member to do your laboratory work, as you say, on some part-time pay basis. Specimens could be sent to the laboratory by numbers instead of by patients' names, and thus hide their identity, though this is a miserable subterfuge, and renders the work of the pathologist almost negligible in results. But it can be a beginning, and if the pathologist is the right sort he will soon have the other men coming to him with their problems of diagnosis. A further broadening of the pathological work so that the laboratory man can utilize the other facts in the case to help out in diagnosis and treatment should come gradually but rapidly. You must have a pretty narrow-minded set of medical men.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

Care and Asepsis in Hospitals for Infants. August Strauch, M. D. Arch. Pediat., 1916, XXXIII, No. 12.

While recognizing lack of individual care as a factor in the well-known ill effects of hospitalization on infants, Strauch attributes these ill effects mainly to cross infection through such means as the use in common of bath tubs, combs, powder boxes, ointments, and toys. The washing of several babies and the cleaning of their anal region on the same table, and the preparation of milk by the same nurse who attends to diapers and feces are mentioned as additional dangers. Mere ordinary cleanliness, Strauch says, is not sufficient; "asepsis that aims to approach the perfection of the surgical operating room is imperative." The complexity of these requirements of asepsis necessarily demands a much higher ratio of nurses to patients in the case of infants than in that of adults. Heubner demands from 3 to 5 nurses for 8 children; Biedert asks for 1 nurse and several servants for 2 or 3 babies; Baginski gives no more than 4 children at most to 1 nurse; Sollmann requires 20 nurses for 50 beds. This means that proper hospital care of infants must be expensive. Both for their own sakes and for the sake of reduction of expense, the little patients should be kept in the ward no longer than necessary. Strauch suggests the creation of open-air camps, cottages, and sanatoriums in the country or on the seacoast for convalescent or chronically ill children.

Prevention of the Transmission of Infectious Diseases in Hospitals (Die Verhütung der Ueberträgung ansteckender Krankheiten in den Spitälern). Dr. E. Feer. Corr.-Bl. f. Schweiz. Aerzte, Basel, 1916, XLVI, No. 43.

The author has studied the conditions with regard to infectious diseases in the hospitals of most of the great cities of Europe and especially in the Paris hospitals. The observations made in children's hospitals are most interesting. Fifty years ago the mortality from infection at the Hôpital des Enfants malades in Paris was so great that Archambault used to say: "At the children's hospital the patients do not die from the diseases they bring with them but from those they contract there." As a result of a report of the Medical Society of the Paris Hospital, isolation was carried out in all hospitals, and special isolation pavilions were established for diphtheria, measles, and scarlet fever in all children's hospitals. But even then the mortality from infection was great.

Isolation on a grand scale was established in 1900 in the new Pasteur Hospital, which receives only patients with infectious diseases. It comprises two pavilions with 24 isolated rooms, most of which contain only one bed each. The service is strictly antiseptic. In 10,000 cases treated during the first ten years at this hospital, only 30 cases of infection occurred. In other Paris Hospitals, where the various infectious diseases were isolated in special divisions, the number of cases of infection was ten times as great.

Lesage introduced in the Herold Hospital the system of closed glass boxes, ranged along the long sides of the wards. He believes that the germs are transmitted almost exclusively through the air. He keeps all doors closed and prevents any strong air currents. He, too, obtained excellent results and his system was adopted in Berlin, Breslau, and other places.

Still simpler is the method of isolation of Dr. Grancher at the Hôpital des Enfants malades. His glass boxes have no doors and are open below and above. Grancher believes that the transmission of disease takes place chiefly through indirect contact. He therefore surrounds the bed of suspected cases in the general ward on all sides with wire screens and the service is carried out strictly antiseptically. With this system Grancher obtained good results.

A similar bed-isolation system is used in England, with the difference that the screens are omitted. Among 669 patients treated in 1911 in the Fazakerly Hospital in Liverpool only two cases of infection occurred (scarlatina). But these splendid results are probably essentially due to the excellent qualities of the English nurses.

Considering all the advantages and disadvantages of the various systems, the author selected for the new observation hospital for children in Zurich (Switzerland) the system of the Pasteur Hospital in Paris as the most efficient method of isolation. The new hospital is a two-story building, 26 meters in length. The glass boxes are ranged on both floors along the south side. They have a glass door and are 2 meters wide and 4.5 meters long, so that in certain cases two beds may be placed in them. Strict antisepsis is observed, and physicians and nurses put on a fresh gown whenever they enter any of the boxes. During the first year not a single case of infection occurred.

Organization and Working of a Hospital for Contagious Diseases (Organisation et fonctionnement d'un hôpital de contagieux). Dr. M. Labbé, Ann. de méd., Paris, 1916, III, No. 4.

The author, who is a member of the French army medical service, shows how a hospital for contagious diseases may be successfully improvised in time of war. First, all the suitable buildings of the locality should be carefully examined. Hotels, villas, school buildings, barracks, etc., all have their special advantages and disadvantages. The various rooms should be carefully apportioned according to their fitness for the various purposes. The rooms for the general services are preferably placed on the first floor. The whole building should be thoroughly disinfected. In the sick-rooms only iron bedsteads should be used. Special rooms should be established for the disinfection of incoming patients as well as for the disinfection of accouterments, bed clothing, etc. For convalescents an open but isolated space should be provided where the patients can take exercise.

Observations on the Preventive Measures Against Cholera in a Military Isolation Hospital (Alcune osservazioni di profilassi anticolerica in un ospedale militare contumaciale). Dr. M. L. Della Vida. Ann. d'ig., Palermo, 1916, XXVI, No. 10.

As soon as cholera made its appearance in an epidemic form on the Italian eastern front, special observation

hospitals were established for sick and wounded soldiers. These hospitals act as filters, so to speak, between the army in the field and the Italian cities where the reserve hospitals are located. In fact, all soldiers, sick or wounded, who come from the infected zone and are sent back from the first-line hospitals because they cannot be cured in a short time are not carried back to the reserve hospitals, but have to pass at least six days in one of the observation hospitals. These six days correspond to the incubation period of cholera, and if a soldier is infected the disease will develop at the hospital. But cholera carriers will also be detected, as a thorough bacteriological examination of the feces of all patients who enter these hospitals is made. From October 1 to December 31, 19,968 patients passed through the hospital in which the author is employed. The bacteriological examination gave positive results in 344 cases. Among these were 279 cholera carriers. The mortality from cholera during the period mentioned was only nine. The longest term needed to render cholera carriers free from germs was twenty-three days. Of interest is the fact that in all cholera cases (patients or carriers) in which the elimination of the vibrio took more than fifteen days, the men had not been treated with the anticholera inoculation.

The Attitude of the Hospital Toward Venereal Diseases. C. K. Clarke, M. D. Public Health Jour., Jan., 1917, II, No. 2.

Dr. Clarke says that a few years ago, when he was superintendent of the Toronto Hospital for the Insane, he observed that an increasing number of admissions were cases of general paresis. A careful survey of the figures showed that 25 percent of the male patients admitted were syphilitic. A steady increase in venereal diseases was observable from the cases admitted to the general hospital service. Seventy-nine paretics, many having congenital syphilis, came under observation during a year in a small clinic for the feeble-minded. This led to the opening of a special clinic for venereal diseases and to the routine examination of the blood of every public-ward patient entering the hospital. More than 12 percent of the patients admitted to the public wards of Toronto General Hospital are syphilitic. Dr. Clarke commends a law of Western Australia, which went into effect in December, 1915, which provides, among other things, that persons suffering from venereal diseases must place themselves under treatment and remain under treatment until cured; that physicians report cases of venereal disease under treatment; that the names and addresses of patients who fail to continue treatment until cured be reported; that compulsory examination and treatment be given under certain conditions; that free treatment be given by subsidized hospitals or salaried medical practitioners; that quack "cures" be prohibited; that a certificate be given when the patient is cured, and that secrecy be preserved.

Syphilis in the State of Minnesota. H. G. Irvine, M. D. Journal-Lancet, 1917, XXXVII, No. 7.

In many institutional surveys the Wassermann reaction has been found, on an average, in 20 percent of the inmates. On this basis, Dr. Irvine concludes that $166,781 is spent each year for the support of the syphilitic insane in Minnesota. Yet the state does not furnish a single bed in a single institution for the diagnosis, detention, or treatment of an infectious case of syphilis. Nor is there any law on the statute books that permits the handling of syphilis as other infectious diseases are handled. For lack of appropriation, the state board of health is unable to furnish any laboratory service for diagnosis or any facilities for treatment, such as are furnished for typhoid, diphtheria, etc. So far as Dr. Irvine knows, there are no local ordinances which apply to syphilis in any of the cities of the state. The Minnesota City Hospital has no beds for syphilis, but occasionally, if exceptional necessity exists, admits a case. There are practically no beds available for infectious cases in private hospitals.

Thus Minnesota is spending over a hundred and fifty thousand dollars a year for the care of dependents produced by syphilis. Most of these syphilitic patients are general paretics—hopeless cases—and the money spent on them is a dead loss to the state. Yet practically nothing is done to prevent the development of these dreaded sequelae or to prevent the spread of the disease by curing patients in the infectious stage. "The state apparently," says Dr. Irvine, "can well afford to furnish residence for the hopeless syphilitic insane for a rather indefinite period, but cannot afford to furnish treatment for early cases, even though it cost no more than 25 or 30 percent of one year's expense for an institutional inmate."

What the State Is Doing for the Syphilitic at the State Infirmary at Tewksbury, Mass., Based on a Survey on Syphilis and Gonorrhea. Ora Mabelle Lewis. Boston Med. and Surg. Jour., 1917, CLXXVI, No. 11.

The laws of Massachusetts provide that every town and city in the commonwealth shall provide for the care of indigent persons suffering from syphilis or gonorrhea. Overseers of the poor sometimes provide for treatment at the out-patient department of some local hospital, and sometimes they choose, as the more economical plan, to send the patient to the Tewksbury State Infirmary. The infirmary refuses no patient who applies. Patients are given radical treatment with salvarsan until all lesions are healed or symptoms have disappeared, and are then discharged. There is no provision for insuring that patients shall seek treatment if the disease reappears after the patient's discharge. Miss Lewis, who is a social worker for the South Medical Clinic for Syphilis, Massachusetts General Hospital, and auxiliary visitor to the Tewksbury State Infirmary, believes that, in justice to both the patients and the state, subjects for treatment at the infirmary should be carefully selected. Out-patient relief, she believes, is in many cases preferable if attainable, particularly as a Massachusetts statute provides that "no out-patient department connected with any hospital supported in whole or in part by taxation may discriminate against the case of any patient suffering from syphilis or gonorrhea, unless a special ward is provided therefor."

The Brooklyn Hospital Dispensary, Genito-urinary Department. Social Hygiene, 1917, III, No. 2.

The genito-urinary department of the Brooklyn Hospital Dispensary has been reorganized by the formation of a syphilis division. The attendance has increased from 108 on January 1, 1916, to 369 on January 20, 1917. This increase has been obtained through continued effort on the part of the physicians treating the clinic patients and by means of continued follow-up work. A careful record of attendance is kept, and patients failing to report for treatment receive three follow-up notices, sent out one week apart, as first-class mail, in envelopes bear-

ing only the street number of the dispensary. From September 14, 1916, to January 20, 1917, 1,653 notices were sent out. This does not, of course, mean notices to 1,653 patients, because in some cases three or more notices were sent to one patient. Of the patients who received notices, 377 returned for further treatment.

The Bernese Institution for the Treatment of Alcoholics. Dr. Glaser. Corr.-Bl. f. Schweiz. Aerzte, Basel, 1916, XLVI, No. 41.

This institution has just published a small pamphlet commemorating the twenty-fifth anniversary of its existence. It was established through the noble efforts of Rev. Marthaler in Berne, who founded a society for this purpose. In 1891 a building on a farm near Berne was rented and the treatment commenced with ten patients. In less than three months ten more patients asked for admission. In 1898 the whole farm was bought for 100,000 francs ($20,000), the government of the canton of Berne contributing 40,000 francs. This was done in order to give the patients suitable work. At first the treatment lasted only six months, but it was soon extended to twelve. Experience showed that it takes at least a year to cure a heavy drinker. The average number of men treated is now about thirty. At first only voluntary patients were received, but during the last few years patients were also sent to the institution by the cantonal authorities by administrative order. The treatment consists in a regulated life, wholesome work, and especially moral influence. Of the 954 men treated so far, more than one-third were completely cured and now abstain entirely from drink. Of the other 600, the great majority were returned to their families as useful members of society though they are not total abstainers. Only a small number returned to their old habits and were lost. The institution keeps up a lively correspondence with the discharged patients.

St. Johns Hospital, 1816-1916. Centennial Volume. 278 pp., 8vo. Copenhagen, 1916.

This fine memorial volume was published by the St. Johns Hospital for the Insane at Copenhagen, founded in 1816. It consists of two parts. In the first part, Dr. Helweg gives a history of the institution from its modest beginnings to the present day. He mentions especially Dr. Henrik Seidelin, Dr. Harold Selmer, and Dr. Emanuel Steenberg, who, by their labor and devotion, made the institution what it is today. The second part contains a number of valuable articles by prominent Danish psychiatrists.

Hospitals and Sanitary Stations. Dr. G. Roux. Montpellier méd., 1916, XXXIX, No. 8.

The author proposes that the care of all tuberculous soldiers discharged from the army be turned over to the Ministry of the Interior. Hospitals should be established throughout France for this purpose. The hospitals could after the war serve as popular tuberculosis sanatoriums. Only wealthy patients, who can take care of themselves, should be excluded from these institutions.

Drumcondra Hospital: A Short History. Dr. E. M. Cosgrave. Dublin Jour. Med. Science, 1916, December.

This hospital was established in 1818, under the name of "Whitworth Fever Hospital," in the northeastern suburbs of Dublin. For many years the institution labored under financial difficulties, which became acute in 1849, when the hospital had to be closed. It was reopened in 1853, under the name of "Whitworth General Hospital." It received free patients and pay patients "at the weekly sum of 2 shillings." Patients of all religious denominations were admitted. In 1893 the name of the institution was again changed into Drumcondra Hospital, under which name it is now known. A series of donations by benevolent persons, among them the Countess of Pembroke, placed the hospital on a firm financial basis. The old buildings were modernized and new ones added; the interior of the hospital shows all the improvements of modern times as a heating plant, electric lights, etc.

A Medical Creation of General Gallieni. Dr. d'Anfreville de la Salle. Presse méd., Paris, 1916, No. 43.

Commenting on the death of the late General Gallieni, the author calls attention to the great services the general rendered France while he was governor of the French colony of Madagascar. Impressed by the great epidemics which decimated the native population, Gallieni founded a great number of hospitals in all the provinces of the colony. He established leper hospitals, lying-in hospitals, a bacteriological laboratory and a medical school for natives. The results of this far-sighted policy were soon apparent. Smallpox epidemics disappeared, malaria and leprosy decreased and the people became reconciled to their French masters. As the author says, a hospital rendered greater services than a battalion in pacifying the people.

Some Phases of Home Economics in Hospital Administration. Elizabeth Selden, R. N., B. S. Am. Jour. Nursing, 1917, XVII.

Those high-school graduates who are best equipped for entrance to a hospital training school for nurses, in Miss Selden's opinion, are usually those who have taken one or more courses in home economics. High-school graduates in the past have often been found deficient in many subjects required by the state board of registration, including chemistry, physics, biology, bacteriology, hygiene, dietetics, and cookery. As these are state requirements, the hospital is compelled to instruct probationers in these subjects before instruction in nursing begins. Miss Selden suggests that the high school might give a special home economics course preparatory to entrance to the hospital training school. This would leave the hospital training school free to give more thorough and more specialized training within its own field. A postgraduate-high school course in home economics would also be of value, Miss Selden believes, in bridging the gap between the high school and the training school, and thereby retaining the interest of girls who would otherwise be drawn away from hospital work before they became old enough to enter the training school.

It is a curious thing to observe how almost all patients lie with their faces turned to the light, exactly as plants always make their way towards the light; a patient will even complain that it gives him pain "lying on that side." "Then why do you lie on that side?" He does not know—but we do. It is because it is the side towards the window. . . . Walk through the wards of a hospital, remember the bedsides of private patients you have seen, and count how many sick you ever saw lying with their faces towards the wall.—Florence Nightingale, "Notes on Nursing."

BOOK REVIEWS

The American Year Book of Anesthesia and Analgesia. Edited by F. H. McMechan, M. D. Cloth, $4. Pp. 416, with illustrations. Surgery Publishing Company, New York, 1915.

This year-book was established as a medium for presenting current advances in the science and practice of anesthesia and analgesia. War conditions have prevented the list of contributors from being as international as it would otherwise have been; it now includes George A. Crile, Yandell Henderson, Willis Drew Gatch, James Tayloe Gwathmey, Ralph S. Lillie, Arthur E. Hertzler, and many others. The attempt has been made to afford a comprehensive view of the present status of a number of subjects.

Clinical Tuberculosis. By Francis Marion Pottenger, A. M., M. D., LL. D., medical director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal., professor of diseases of the chest, College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, with a chapter on laboratory methods by Joseph Elbert Pottenger, A. B., M. D., assistant medical director and director of the laboratory, Pottenger Sanatorium. Cloth, $12. Two volumes, Vol. I, pp. 707, with 111 illustrations; Vol. II, pp. 713, with 66 illustrations. C. V. Mosby Company, St. Louis, 1917.

These two volumes practically cover the field of tuberculosis, and embody the observations of Dr. Pottenger covering a period of twenty years. The studies were made in large measure at his private sanatorium. Pathological problems are presented in a practical way and from the point of view of a clinician. Diagnosis is considered in its relationship to physiology and functional pathology. The author, as he states, has endeavored to explain the physiological basis of the more important measures employed in treatment in the hope that such an understanding will produce a more intelligent therapy than that practiced today. The work is essentially a series of monographs, presenting in a clear way the subjects under discussion, and will prove valuable as a work of reference.

The limitations of climate are noted in a chapter devoted to this subject (Vol. I). It is not recognized as the main factor in the treatment of tuberculosis. The author states that a "country which invites patients to be out of doors and which offers physical surroundings in the way of natural scenery and vegetation, which are pleasing to the physical sense, will undoubtedly improve the patient's chance of recovery." We are sure, however, that notwithstanding these advantages, Dr. Pottenger believes that no thoughtful physician will prescribe climate without due regard to the circumstances of the patient or stage of his disease. Failure to do this has in the past opened the door to many regrets that have harassed the minds of thousands of patients at a time when they most required repose.

Chapter 48 (Vol. II) reviews the sanatorium treatment of tuberculosis. The author speaks of the adaptability of the sanatorium to carrying out measures and methods which are recognized as having particular curative powers in tuberculosis, a place where the scientific application of such measures as air, rest and exercise, light, tuberculin, hydrotherapy, psychotherapy and other aids may be applied most advantageously. The relative merits of the sanatorium and home are discussed in detail. It is hardly possible that results of sanatorium treatments such as quoted by Dr. Pottenger from his own institution could be attained in a large municipal sanatorium. The rank and file of these patients applying for treatment represent moderately advanced and far advanced cases. These patients have ceased to be wage-earners on account of physical incapacity and absolute inability to care for themselves and their families; on account of long-continued illness they have finally become a charge upon their relatives and friends and the sanatorium is sought as a last resort.

The solution of the municipal tuberculosis problem is largely viewed from the economic and social standpoint. The sanatorium as a factor in actually curing the disease should not be considered. The sanatorium receives those cases from all the zones of infection, thereby preventing the spread of the disease and in this way eliminating the contact from the home and about the streets and public places. It is exceedingly doubtful if a record of "60 percent apparent cures in moderately advanced cases" could be obtained in a large municipal institution, or a "healing or arrest in about 40 percent of advanced cases," as quoted from the Pottenger institution.

Dr. Pottenger fails to credit the original observer of the so-called "Wheaton sign" with his work; the terms with which he refers to it might even be taken to imply that the discovery of these integumentary changes was due to himself. CLARENCE L. WHEATON.

Clinical Studies in the Relationship of Insanity to Crime. By Paul E. Bowers, M. S., M. D., physician in charge, Indiana Hospital for Insane Criminals, Michigan City, Ind. Pp. 104. Paper, $1.50, postpaid. Alexander Publishing Company, Michigan City, Ind., 1915.

"Every year," says Dr. Bowers in the preface to this monograph, "society is unjustly sending to prison hundreds of insane and feeble-minded persons who, in the course of their mental disturbances, have violated the penal law." The purpose of this book is to show the necessity of distinguishing between criminal acts committed by persons mentally responsible and those committed by the mentally irresponsible. Dr. Bowers makes the point that, while society must be protected from violent acts whether committed by sane or insane, it does not receive protection from insane and mentally defective persons sent to penal institutions for a definite term of years and released uncured at the expiration of their sentences. He gives, under the heads of epilepsy, dementia precox, general paresis, and various other forms of insanity and mental defect, illustrations of the relation between mental defect and legal offenses. Dr. Bowers is satisfied, "after careful observation and study," that 60 percent of the prisoners admitted to the Indiana State Prison are mentally defective. While he does not state by what means he arrived at this figure, he distributes the proportions under various classes as follows: insane, 12 percent; feeble-minded, 23 percent; epileptic, 8 percent. "This," he adds, "is an exceedingly low and conservative estimate."

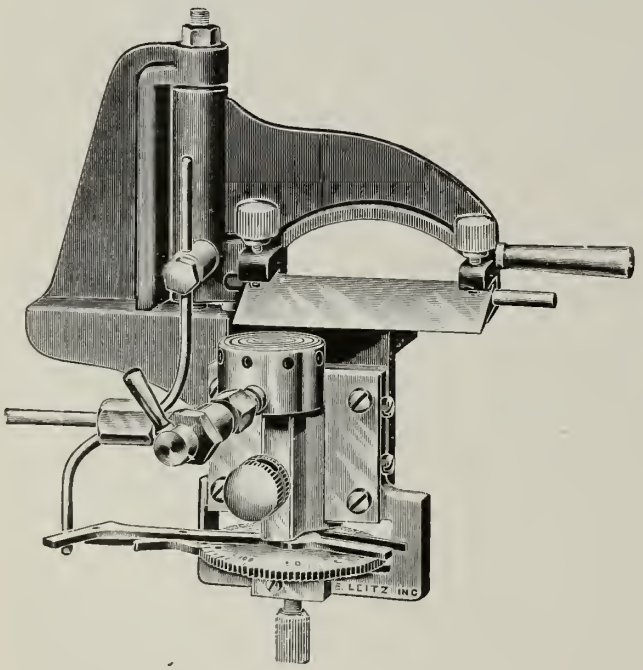
NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Automatic Feed Freezing Microtome

An improved type of automatic feed microtome, constructed according to suggestion given by Dr. Aschoff and made by E. Leitz, of Germany, had already become popular with laboratory workers in this country when the present disturbed condition abroad prevented further importation of this apparatus. The American branch of the above-mentioned firm in New York has now, however, succeeded in manufacturing this apparatus in this country, and is able to supply the demand.

Automatic feed of object is obtained in the following manner: a clamping lever is set to a scale in exact accordance with the thickness of section desired. A transmission rod acts upon a feeding gear, which engages the teeth of the wheel and raises the block corresponding to the thickness of section desired. One interval of the clamping lever equals one tooth on the feeding wheel, or 0.005 mm. = 5 micra. The object clamp for paraffine blocks will accommodate blocks up to the size of 30 by 22 mm. The freezing chamber for carbon dioxid is supplied with a needle valve, whereby the flow of carbon dioxid gas may be most accurately controlled. This chamber permits the freezing of an object of the size of 30 mm. in diameter. The apparatus is of rigid construction, and no lost motion or inaccuracy in adjustment has been noticeable in it after having been in use for several years.



Leitz automatic feed freezing microtome.

Vest-Pocket Hypodermic Sterilizing Outfit

Under the name of the Vim Alco (Alcohol), a unique and ingenious hypodermic sterilizing outfit is now being offered by the surgical supply houses.

As will be seen from the illustrations, a Vim-Lüer syringe is carried, suspended in alcohol, in a small glass bottle with a screw top. The piston of the syringe is hollow and contains a holder with two gold needles, also suspended in alcohol. Both syringe and needles, therefore, are always sterile and ready for immediate use in any emergency. Some physicians prefer to sterilize the syringe at home and substitute sterile water for the alcohol. A ground joint between a flange on the syringe and the mouth of the bottle prevents excessive evaporation.

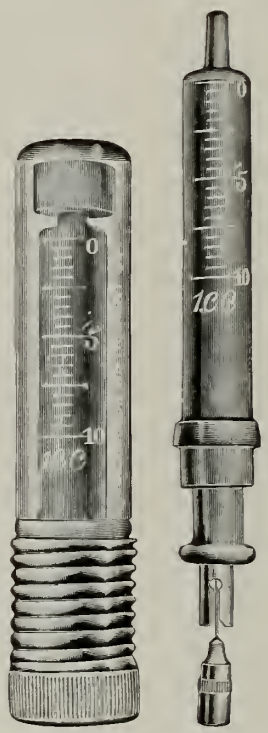


Fig. 1. The Vim syringe sterilizer.

The compactness of the outfit, its cleanliness and general practicability, will no doubt appeal to the exacting physician.

A Reliable Water Still

Since scientific laboratory work has become such an important factor in successful treatment of disease, reliable equipment for the use of the laboratory worker has become a prime necessity. One of the important items in such equipment is a good water still; therefore we wish to call the attention of our readers to the Acme water still. Although this is by no means a new piece of apparatus, it does not seem to have received the attention it deserves. We consider this an excellent device for the production of pure water by distillation, the distillate being cold and aerated if desired.

During the last few years materials of every kind have risen in price to such an extent that undesirable substitutes are being used in the manufacture of some of the

cheaper stills on the market. The Acme still, however, is of first-class workmanship throughout; it is made of copper and brass, tin-lined and nickel-plated.

The gas and water connections are extremely simple. The still runs automatically, and there is practically nothing to get out of order. The Acme is one of the fastest water stills known, as it produces a gallon of distilled water an hour, at the cost of only about 1 cent a gallon. The mineral and other matter that remains in the retort is drained off through the flushing outlet; this can be done

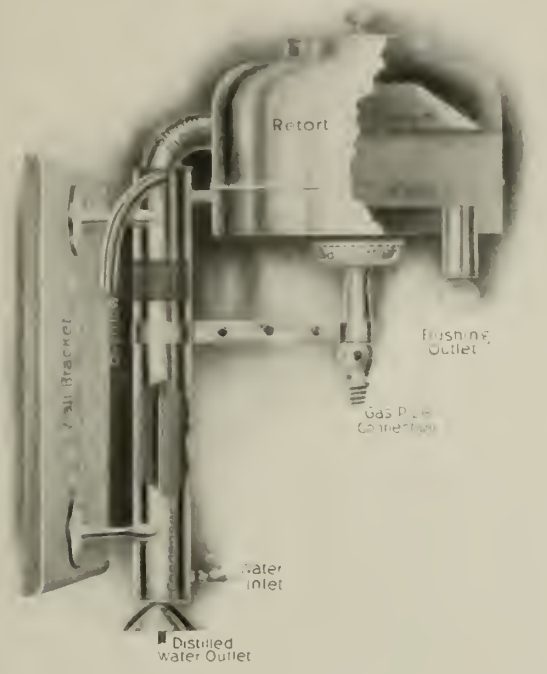


Fig. 1. The Acme water still.

in a moment's time without any trouble and without displacing the still or taking it to pieces.

The manufacturers furnish a special burner suitable for this apparatus, for use with either coal or water gas, natural gas, or acetylene.

The still can be purchased from all first-class laboratory and surgical supply houses.

Serviceable Sanitary Protective Sheeting

One of the items which calls for an outlay of a considerable sum of money in the course of a year, especially in a large hospital, is the supply of protective sheeting. As there are so many different "brands" of this material in the market, it must be difficult for the hospital super-

Fig. 1. Ostermoor sanitary sheeting.

intendent to choose from among them, especially so as all of the manufacturers of these materials naturally point to their product as the best of its kind.

During a period of over twenty years in the hospital supply business, I have come in contact with a great variety of different products of this kind, but of most of them I rarely heard again after a few months, or at least after a year or two, for the simple reason that these products did not stand the test of continuous service for a reasonable length of time. The really good protective materials that are on the market are only a few in number and among them I and many of my friends in the hospital field have found the Ostermoor Sanitary Sheeting one of the best of its kind.

The basis of this sheeting is a strong, closely woven, pliable cotton fabric; although light in weight, it is nevertheless strong and durable. The process of coating this

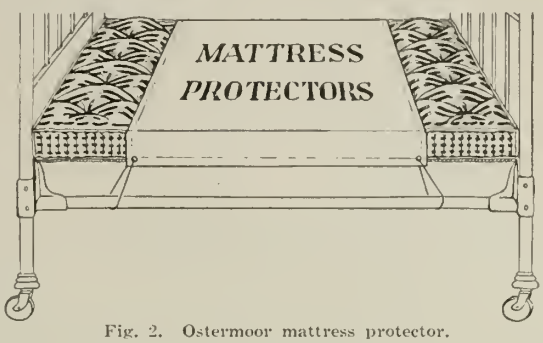


Fig. 2. Ostermoor mattress protector.

cloth with an original composition (entirely without rubber) makes the surface absolutely water-proof, urine-proof, and acid-proof. The sheeting can be readily washed and practically sterilized in boiling water, or one may use warm water and soapsuds.

The material is made both in white and maroon and either single or double coated; it can be secured at all first-class surgical supply houses.

Carrel Apparatus for Wound Sterilization by Means of "Dakin's" Solution

This instillation apparatus consists of the following parts: graduated glass container, tube with screw regulator, glass connections, and a set of five specially designed glass distributors with perforated rubber irrigating tubes attached. The tip of the container is closed with a rubber cork in which is inserted a so-called thistle.

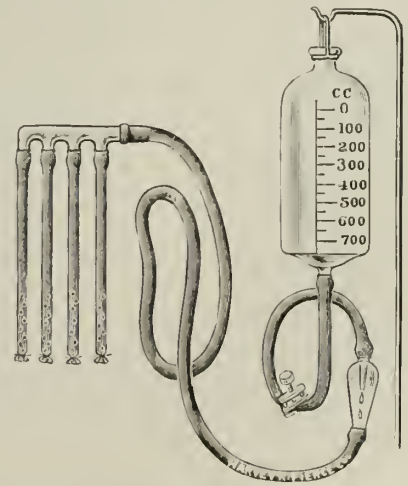


Fig. 1. Carrel apparatus for installation of Dakin's solution.

This thistle is filled with sterile cotton and serves the purpose of preventing the loss of chlorin.

The container is similar in shape to the well-known Kelly infusion bottle and is graduated to 700 c.c. It is pointed out by Dr. Carrel that this graduation is very essential in order to enable the surgeon or attendants to measure accurately the amount of solution injected.

The rubber tubing attached to the container should

be of a diameter of 1 cm., and the dropping chamber (which is similar to the Scott's saline dropper) should have an opening of 5 mm. in order to allow the proper amount of solution to pass to the distributors in a given time.

A screw regulator is inserted between the solution container and the dropping chamber. The glass distributor is attached to the end of the tube leading from the container, and, where more than one infected wound is to be treated on the same patient, two or more distributors

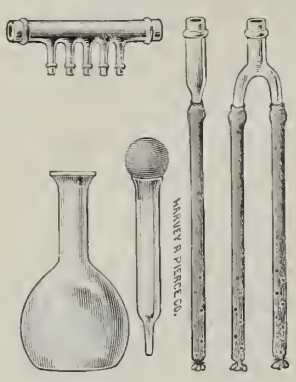


Fig. 2. Accessories for use in connection with Carrel technic of wound sterilization.

may be attached by means of multiple glass connecting tubes. These distributors are made with a number of outlets varying from one to five or six, the one to be used depending on the extent of the size of the wound to be treated. The rubber tubes attached to the glass distributors are from 15 to 25 cm. long, according to the location and depth of the infected area. The outside diameter of these rubber tubes is 5 mm., and the inner lumen should be 3 mm.

The distal ends of the irrigating tubes are closed by tying them with strong silk, and they are perforated at intervals of about 1 cm. with from six to twelve holes. The number of perforations as well as the number of irrigating tubes to be used depends entirely on the indications of each individual case.

Dr. Carrel and other surgeons who have had very gratifying results from the Dakin solution treatment state that it is absolutely necessary to follow closely certain rules which they have laid down after extended experiments and careful study, and the employment of a properly constructed apparatus is pointed out as an absolute necessity.

Nonleakable Trocar

DEVISED BY DR. C. E. KELLS, New Orleans.

The writer has often heard surgeons complaining that they have never been able to find a trocar that was satisfactory for the purpose of aspirating fluids from the abdominal cavity, or chest, etc. Recently, however, Dr. C. Edmond Kells, D. D. S., of New Orleans, La., demonstrated a trocar which he had devised several years ago and which has been in use successfully since then in a number of hospitals in New Orleans, and, as such an instrument is almost invariably used in hospital practice, he believes a description and illustration will be of interest to the readers of this journal.

As will be seen from the illustration, the instrument consists of a double, sliding telescopic sheath, with the end of the outer tube bell-shaped and the inner trocar sheath perforated at certain places. The trocar point itself is also drilled and braced to the end of a hollow tube, which also has an aperture. The trocar must be used in conjunction with a suction apparatus. This may be one of the well-known filter pumps and accessories, attached to the ordinary hydrant, but an electrically driven apparatus is preferable. There are a number of good devices on the market for this purpose, one of them invented by Dr. Kells, the Carmody suction, or the Beck-Mueller ether and suction apparatus, as well as a number of other types. Such a suction apparatus, in connection with other tips which may be easily attached, may be also used for emptying cavities in any part of the body or cleansing bleeding areas in any operative field.

Kells nonleakable trocar.

In order to use the trocar, the rubber tubing from the aspirating machine is connected to the outlet of the trocar and the pump started. Then, with the trocar withdrawn into the barrel, the end of the barrel is placed at the point to be punctured. The bell of the sheath is firmly pressed against the part to be punctured and the trocar blade pushed down as far as it will go. By holding the sheath firmly, the barrel can be pushed in any desired depth. The end of the trocar blade is then withdrawn to its full length and the contents of the sack are quickly emptied. Any leakage around the barrel of the trocar is at once sucked into the bell-shaped sheath and carried out with the rest of the fluid. Trocar blades or aspirating needles of any size or length may be furnished and are all interchangeable.

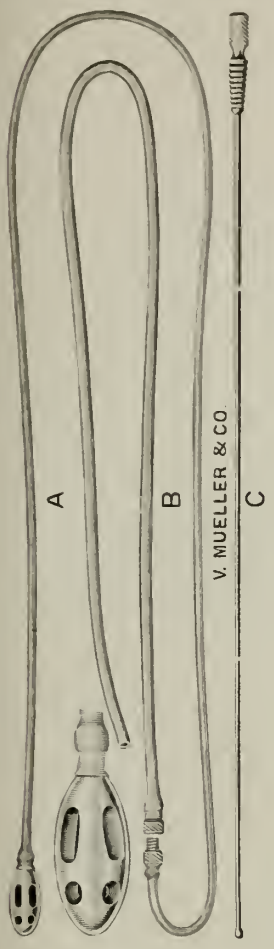
Stomach Lavage, Feeding, and Aspirating Tube

Stomach lavage, feeding, and aspirating tubes similar in appearance to the tube illustrated here have been devised by Drs. Einhorn and Rehfuss, but the important difference between the former and the tube shown herewith, which was devised by Dr. Allen B. Kanavel, Chicago, is that the active cooperation of the patient is necessary to introduce the former, while this tube can be inserted immediately into the stomach by the surgeon and left in position for days if it is found necessary.

The construction of the tube and its introducer are as follows: the bulb is of the same size as the Rehfuss bulb, except that the lumen of exit is larger and it is so constructed that it is impossible for the wire carrier to slip out. The rubber tubing is of the same size as the Rehfuss tube, but only 30 inches long; this is attached to a second, heavier tube 25 inches long by a screw lock. A carrier of piano wire, protected with probe point, is made to fit the first tube, so that it can be introduced without difficulty. The second tube is attached after the removal of the car-

rier, and the contents of the stomach are aspirated and siphoned off.

If the patient will swallow the tube, the lumen of exit of the bulb being larger than the Rehfuss tube, the stomach contents can be aspirated with greater freedom and the mucus interferes less. This latter is of importance in post-operative lavage, when the mucus is generally considerable, and interferes even with this tube at times. It will be seen that the bulb is so constructed that the point of the wire carrier cannot slip out of the bulb and injure the stomach. Owing to the shortening of the rubber tubing, there is less probability of the collapse of the tube on suction and there is less difficulty in removing the carrier. This latter procedure is also aided by having the patient throw his head back, thus lessening the sharp angle in the tube.



Kanavel stomach lavage, feeding, and aspirating tube.

Dr. Kanavel states that the tube described has proved of signal benefit in the vomiting of peritonitis or persistent vomiting from any cause, as well as being of great aid in the routine examination of stomach contents for diagnosis. In the former instance the tube is either introduced by the surgeon or swallowed by the patient. It is then attached to the chin by a piece of adhesive plaster and may be left in for days. In the regurgitation incident to peritonitis, the stomach contents are aspirated every half hour to an hour, and at regular intervals the stomach is washed out by injecting soda solution or other liquid through the tube and aspirating it. Between the washings the end of the rubber tube attached is placed in a basin, with the end covered by fluid, so that a continuous siphonage takes place. The retention of the tube is without discomfort, while the absence of stomach distention and vomiting gives the greatest relief to those distressed patients.

Fluid may be left in the stomach or medications given if desired. In addition to being used in peritonitis cases, this tube has been used in persistent vomiting from any cause, as paralytic ileus, gastritis, toxemic vomiting, etc. In such patients, after washing the stomach for a day or two, small amounts of liquid food are introduced, and, if subsequent suction shows that the food is being absorbed or is passing the pylorus, feeding is increased. Thus, without discomfort to the patient, food can be given at the earliest possible moment.

Smith Spotlight

Better illumination for operative purposes is always welcome in the operating-room, and many new types of lamps have been devised during recent years, all tending to produce better light.

The Smith light here illustrated is intended for the illumination of comparatively small surfaces. A bulb of 35 candle power with tungsten filament furnishes the light. The filament is of special design, which, together with the combination of lenses used, entirely does away with all shadows. A stream of white light of great intensity and traveling practically in parallel beams is thus produced. For work in deep cavities this lamp should be found most useful.

It is manufactured in a variety of mountings, so that it can be used with a floor stand, as a table lamp, or with a wall bracket, as desired. If preferred it can be attached to practically any floor stand which might be in use in the operating-room, thus making it a convenient lamp for those cases where it is of a special value without occupying any extra floor space. The fixtures are finished in nickel, oxidized copper, or gun metal.

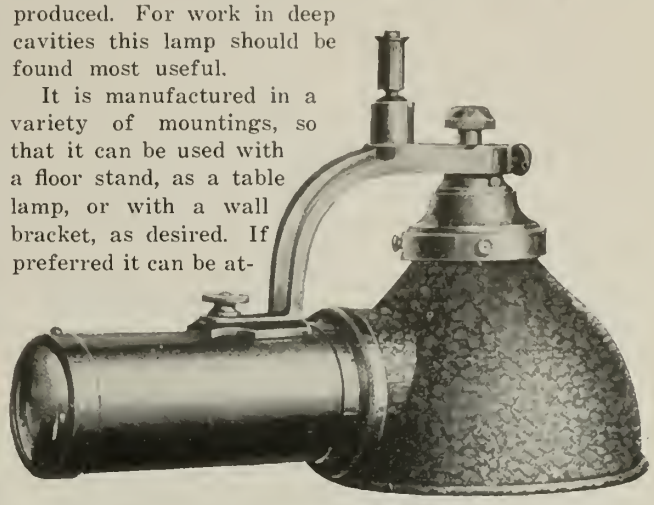


Fig. 1. The Smith spotlight.

Butler Sanitary Back Rest

The back rest illustrated here is an improvement in many ways over the well-known wooden back rest, as well as the heavy metal frame outfit with woven spring back.

The back support of this device forms a strong spring, and the canvas is so attached that all the applied weight acts directly on the spring. These facts, together with the flexibility of the metal itself, combine to give a solid degree of comfort.

Butler sanitary back rest.

The Butler back rest should practically be indestructible with ordinary usage. The frame is made of cold rolled steel and finished with black enamel. The rest can be placed in four different positions and folds to only 1½ inches in thickness; thus it will lie flat under the mattress when not in use. The cover is made of heavy canvas and is easily removable for washing.

THE BOYS' CLUB A PREVENTIVE PRESCRIPTION

Ways and Means of Teaching the Boys of Our City Streets to Keep Well, as Generally Adopted by the Boys' Clubs Throughout the Country

BY CHARLES G. KEITH,
Assistant Secretary of the Boys' Club Federation.

The surest, and perhaps the quickest, way of conserving the future health of our nation is by consistently and persistently training the rising generation to keep well. The schools are indeed doing much along this very line, but no one agency can hope to handle the problem in its entirety. Supplementing the work of and cooperating with the school is the organization known as the Boys' Club.

These clubs, located as a rule in the most populous sections of the community, deal almost wholly with that type of boy commonly known as the "street boy." A politer term, and certainly one which more fully describes this group of our wiggling wonders, is the "underprivileged boy." It will, no doubt, be surprising, and to many suggestive, to know that of the entire boy population of this country, 66 percent of it comes under this grouping. In round numbers this means over 5,000,000 boys.

The Boys' Club is the only preventive organization on the continent which considers this enormous class its special field of activity. It welcomes every boy, be he Protestant or Catholic, Jewish or of no faith, and, as for class distinctions or racial prejudices, they do not exist, making this organization unique in boys' work.

Fig. 1. Boys' Club, Springfield, Mass.

The need for such an organization is evident to anyone who is familiar with the home life of the boys of this class. It is all very well to prate about the fact that the proper place for a boy after dark is at home, but the truth of the matter is that tens and hundreds of thousands of our boys are not at home when they should be, and therein lies a tale.

When our little friend has finished supper, there comes to him a perfectly natural desire to do something; he does not care much what, but he wants to do something. There is nothing at home to attract him, so he wanders onto the street, where, to be brief, he becomes associated with the much-talked-about "gang," and eventually a participator in discussions and activities which tend to wreck and ruin his moral and physical well-being.

The Boys' Club, with its policy of the wide-open door, its bright lights, and the sounds of care-free fun and play, is far more appealing to the average boy than any experience he is apt to have with the corner gang. In the club there is an ever-present but unobtruded high moral standard set which cannot but have a vital influence on him in this most impressionable period of his life. Here, too, he finds as a rule a gymnasium, where he can work off all his accumulated surplus energy and, under competent guidance, lay the foundation of physical strength and muscular vigor that is so necessary to his future success. A thorough physical examination at his first appearance gives the one in charge the cue as to the needs of the individual boy. This is followed at regular intervals by further examinations, and the result is that many a boy is helped into a strength and physical well-being that he might never know were it not for the club.

Cleanliness in speech and action is, of course, a requisite to membership, but cleanliness in body is especially emphasized. It is surprising, and often amusing, to see the enthusiasm these boys show for the shower baths. One would think sometimes that a bath is a rare treat to many of these youngsters, and, indeed some experiences of club workers would tend to strengthen this belief. For example, one of the clubs was the recipient of severe condemnation on the part of certain parents not so very long ago because those in charge had aided and abetted the boys of these parents in cutting off their underclothes in order to take a bath, these same underclothes having been *sewed on for the winter.* Astonishing, is it not, and yet the entire lack of proper care of the body is quite the customary thing in these homes where the darkness of ignorance reigns supreme.

The teeth are frequently found in terrible condition, even in quite young boys, and the suffering that is in store for them is wellnigh unthinkable. Through the influence of the club this condition is remedied in many instances through trips to the dental clinic of the city. Not infrequently this results in the discovery of enlarged tonsils or adenoids, or both, and a date is then fixed for an operation.

Need it be suggested that cigaret smoking is predominant among this class of boys? And yet why does it continue to predominate? Clearly the many discussions, both in class room and in booklets, the anti-cigaret societies galore, the pleadings of fond parents—all are of little avail, and Young America, either in public or private, pursues his onward course, enveloped in a cloud of smoke and doomed to permanent inefficiency through sure and deadly acroleinization, as it were.

Far be it from me to claim a cure than which there is none other, but it has long seemed apparent that any remedy which did not take into consideration the psychological as well as the physiological aspects of the case was doomed to dark, dreary, and dismal failure. As long as a boy thinks he is "slipping something over" on his

would-be deliverers from the nicotine habit, just so long will he participate in its pleasures and evils. Make him believe, on the other hand, that to stop cigaret smoking takes grit and nerve and manhood, and is something that every boy cannot do, or really convince him that it is of supreme importance that he should stop, and you will

Fig. 2. Boys' Club, Troy, N. Y.

find him putting up the fight of his life. Ranting against smoking has become a joke among the boys. To solve the problem, other methods of attack must be adopted. Take the following incident as an example of what is meant.

In one live club the usual diatribes had proven futile, and the officials determined to try a new line of procedure. It was decided to offer the silver nitrate cure in lieu of the much overworked good advice and technical information attack. Accordingly a notice on the bulletin board announced the opening of a registration for those who wished to take the cure. Special cards were printed, on which were questions giving the history of each case in great detail. The boys formed a line and were received alone in the "consulting room," where the facts were solemnly recorded just as given by the boys, despite the very evident vividness of imagination on the part of some of the youngsters. To allow thorough discussion of the new event among the boys, the first treatment was not to be given for a week. At the appointed time the club rooms were thronged and the excitement was intense. The office door opened, and out stepped two grave-faced men clad entirely in white. A few minutes of solemn parading and they led the way to the "operating room." That settled it—the cure was the biggest thing that had happened in a long time. Of course, there were scoffers in general and one in particular. He was "going to show this proposition up all right, all right; you wait and see." So boldly he told how many boxes of cigarets he consumed daily—about a dozen, if I remember rightly. Finally it came his turn to have his throat swabbed, and he nonchalantly stepped into the chair, the cynosure of all eyes. Then came the recessional and the exodus. Into a vacant lot they followed him—noble six hundred. Calmly he lit a cigaret while everyone held his breath. It was the crucial moment, and—well,

Fig. 3. Boys' Club. Rug weaving.

you know the rest, or at least you should. Our hero, or was he the villain, demonstrated his superiority for a few moments, then precipitately rushed for the nearest fence, it being the only available support for him to lean over, while outraged nature took her certain revenge.

And so it goes. The Boys' Club is reaching vast numbers of boys from the very families where the question of health receives least consideration. It teaches these boys that success in life depends, first of all, on good health, and is showing them the way to gain this health. Furthermore, these boys carry this teaching into the homes with the most beneficial results, and ultimately the doctrine of cleanliness is made the basis of uncounted numbers of homes that come into being with the passing of the years. Thus by example and precept, by education and persistency, the Boys' Clubs have an important and in many ways unique place in the field of preventive medicine.

Fig. 4. Boys' Club. Printing class.

The Boys' Club Federation, with head offices in New York city, is the national organization of the Boys' Club movement. It aids in the formation and organization of Boys' Clubs in every community where, after an adequate

survey, it is determined that such a club is really needed. Men are furnished to conduct financial campaigns, either for buildings or budgets, and the federation is recognized throughout the length and breadth of the land as the clearing house for information concerning work with boys.

The work ahead is enormous. Thousands of clubs must be established to meet the needs of the country. A financial campaign and a campaign of education is already under way to bring this need to the attention of the people. Light is breaking in the East, and the dawn of a new tomorrow is at hand, a tomorrow in which work with boys—the underprivileged boys—is the keystone in the arch of all social service.

HOW THE UNITED STATES GOVERNMENT BUYS HOSPITAL SUPPLIES

Specifications Are Made From Critical Tests, and Standards Are Fixed Wherever Possible—Uniformity and Great Saving Result—Government's Work Should Be Great Help to Civil Hospitals

BY WALDON FAWCETT, Washington, D. C.

Two dominant objects have been in view in the evolution of the system whereby the United States Government buys hospital equipment and supplies. One object of this system, which has, by the way, but lately been perfected, is the promotion of the highest possible degree of economy through purchase under annual contract, with main deliveries twice each year, thereby making its practicable to handle most of the commodities in bulk. The second object has been standardization of all hospital utilities—especially those articles in the case of which there has been little or no attempt at standardization on the part of manufacturers.

To the management of the average public or private hospital, spending hundreds of dollars where the Federal Government spends thousands for hospital needs, it might appear that the disparity was such as to promise little profit from a study of governmental methods and purchasing machinery. As a matter of fact, however, there is probably not a hospital executive in the country, or a manufacturer or outfitter catering to hospital patronage, that will not gain some new ideas now and then by keeping in touch with Uncle Sam's policy and practice in this field.

As concrete evidence of the aid and inspiration that may be derived by an independent hospital from this source, there may be cited the opportunity vouchsafed to the every-day hospital man, whatever his location, to buy under Government specifications—not at Government prices, mind you, but in accordance with the requirements which Uncle Sam exacts in the case of staples and specialties for his hospitals. Nor will this privilege of looking over Uncle Sam's shoulder in making up a hospital shopping list be unappreciated by any person who has any conception of the time and money expended by Federal experts in tests and experiments preliminary to the drawing of these standard specifications, which are revised annually.

Until a half decade or so ago there was woful lack of uniformity and system in making governmental purchases —not only purchases for hospitals, but for all other Federal institutions as well. To bring order out of chaos, there was organized what is known as the General Supply Committee, a board of authorities on purchasing that is made up of one representative from each of the important Government departments, and included among whom is an official who has had wide experience in purchasing for hospitals. Thus almost all buying for governmental hospitals, large and small, and no matter where located, may be done, if desired, through one central "clearing house" in so far as prices, delivery conditions, etc., are concerned.

As a matter of fact, though, the General Supply Committee does no actual purchasing in the strict interpretation of the word. It paves the way, and leaves the actual buying to the bureaus and institutions that are in the position of ultimate consumers. It is, however, the preliminaries that count in this case, and these preliminaries are calculated to increase the store of knowledge of the outside hospital man quite as much as they enlighten the hospital executive on the Government payroll. Tests of hospital utilities are the very backbone of these preliminaries. The tests are conducted at the National Bureau of Standards, the great governmental research laboratories at Washington, one of the chief responsibilities of which is the trying out of wares of all kinds that have aroused the curiosity of the General Supply Committee.

To digress for a moment, it may be noted that this testing on behalf of the Government frequently leads the scientists of the National Bureau of Standards into lines of original research that ultimately benefit everybody concerned. For example, just now the bureau is conducting tests of wide range covering rubber goods, and, in an effort to be thorough, has gone so far as to install a rubber tubing machine that is expected to yield more satisfactory rubber tubing than has heretofore been obtainable. Last year the bureau made a beginning in the important work of testing commercial refrigerators, and made some most surprising disclosures. The testing of scales, the work in connection with clinical thermometers, and other activities might be cited to the same end.

Not only does the National Bureau of Standards constitute a "try-out" institution or proving ground for anything and everything that Uncle Sam purchases, but the scientists of the institution cooperate in an advisory capacity with the members of the General Supply Committee in preparing the standard specifications under which Government purchases are made—the selfsame specifications that in the case of hospital supplies and equipment may be adopted by any independent institution without so much as saying by your leave. The specifications are redrawn each year, and based on these specifications competitive bids are received from manufacturers who are willing to undertake to supply goods at a fixed price for the ensuing twelve months.

In buying hospital equipment and supplies under its supply schedule, the Government makes contracts which are more or less elastic in character. Such agreements, as a rule, obligate each merchant or manufacturer who has received an award to supply, at the agreed price, as many or as few of the articles on which he has figured as may be needed for the Federal institutions during the year. In some instances a minimum number is named, and in every case the prospective bidders may ascertain just how many of each specific article was used by the Government during the preceding year, so that they have some guide as to probable requirements in the future. At the same time there is, as has been explained, a certain amount of elasticity with respect to all contracts.

Given a supply schedule, which is, in effect, a huge mail order catalogue, a hospital official may order as his requirements dictate any time through the year, but in actual practice all hospital executives are urged to "stock up" twice a year—that is, order at the beginning of a six months' interval everything that will be needed, as closely as it can be anticipated, for the half year. Voluminous

as is Uncle Sam's shopping list in hospital outfitting lines, requisition officers are not held rigidly to its confines. If a hospital executive desires to purchase some article of equipment outside the Federal price list, he can usually obtain authority to do so, and it is understood that in time of emergency hospital officials have authority to purchase locally to meet immediate needs.

Hospital supplies, as listed by the General Supply Committee for the benefit of all Federal officials who have authority to order for hospitals, are comprised in several different classes. One class covers "laboratory apparatus, hospital appliances, and surgical instruments." Here we find several hundred "items," ranging all the way from safety pins to bedside stands or tables. Each item in turn is, as a rule, subdivided. For instance, the average type of bottle will be listed in all the standard sizes from one to sixteen ounces; bandages are subitemized in the various regulation lengths and widths; rubber gloves are scheduled under the names of the well-known makers, so that a purchaser can select his favorite brand; syringes are enumerated according to the distinctive types, etc.

Another class in the schedule, with hundreds of items listed, is that of "drugs and chemicals," but it is not merely from these sections of the catalogue, obviously arranged with a view to hospital needs, that the hospital executives order; they make selections from the category of "furniture and floor coverings," from "plumbing supplies," "window shades," and, finally, from "groceries and provisions." The officers, who exercise jurisdiction over the hospitals of the United States army and navy have requirements so special in character that the general supply schedule, comprehensive as are its 18,000 items, will not answer all requirements, and so the medical and surgical bureaus of the War Department and Navy Department respectively have prepared their own special schedules, following, however, the general plan already outlined.

Fig. 1. Headquarters of the United States General Supply Committee, which prepares specifications and awards contracts for hospital supplies for the public health service.

An interesting characteristic of the buying for Government hospitals is the increasing disposition to buy "on sample" rather than "on specifications," or, better yet, to buy on sample reinforced by standard specifications. The benefit to be derived from the use of basic specifications under such circumstances is that these specifications can be so drawn as to leave the business open to all comers instead of virtually giving a mortgage on the contract to the maker of one branded article. On the other hand, the use of samples simplifies the ordering of goods and at the same time affords an adequate means of seeing to it that quality is maintained, a sample from each consignment of contract goods being sent to the testing laboratories in order to make sure that it measures up to the original sample on which the contract was awarded.

Incidentally it may be noted that Uncle Sam seldom goes so far as to flatly refuse to accept hospital supplies that do not come up to contract. Perhaps the circumstance that often such goods are sorely needed at the time of delivery has something to do with it, but, whatever the explanation, it is the customary procedure, when a test shows goods to be defective, to accept them at a reduction commensurate with the lack of quality if the contractor is agreeable to such disposition of the matter. In a recent case involving a considerable quantity of textiles for hospital use the Government compromised by paying the supply house exactly what the goods had cost to produce.

Buying from sample enables the Federal hospital outfitters to "adopt" in certain lines the regular catalogues of supply houses of standing and reputation. This has been done in the case of makers of surgical instruments, sanatorium supplies, glassware, white steel porcelainware, etc. Where discounts are allowed for quantity, etc., the facts are duly noted on each catalogue filed. The extent to which the Government has thus indorsed the meritorious specialties of well-known hospital supply houses should dissipate any impression that Uncle Sam, because he buys under a system of competitive bids, always decides in favor of the cheapest offering. Not so very long ago, for example, the Government arranged to pay almost double the price previously paid for rubber sheeting in order to obtain a better quality.

It may surprise some readers to learn that the Government does not carry a large reserve stock of hospital supplies, nor is it the policy, in the face of unexpected and unusual conditions, to hastily buy up such supplies in sufficient quantity to tide over the situation. Given a situation such as has developed with respect to drugs since the outbreak of the European war, many practical hospital men would naturally expect Uncle Sam to rush into the market, and, with supposedly ample resources at his command, buy for requirements well into the future, even as the Government early in the war "cornered" the market on certain kinds of dry colors in order to insure a supply of ink for printing postage stamps and currency. No such ethics prevail, however, with respect to hospital supplies, and there are two reasons for this. One reason is that the appropriations made by Congress are close to current

demands, and that the funds are made available piecemeal, so to speak; in short, financial limitations prevent the Federal buyers for hospitals from anticipating requirements to the extent that is practicable in the case of far-sighted executives of independent hospitals having ample working capital. The other reason is a sentimental one—namely, a belief on the part of the Federal hospital men who have the say in this matter that it would be unbecoming the Government, in time of drug famine, to use its position to gain an advantage over other consumers who likewise sought supplies for humanitarian purposes. As a matter of fact, the Government has during the past year and a half relieved some hospital supply contractors from obligations which they could have met only at great sacrifice and the fulfillment of which was not absolutely essential to the needs of the Federal hospitals.

How the storage and distribution of hospital supplies is conducted under Federal auspices is perhaps best indicated by the system in use by the United States Public Health Service, which ranks, of course, as the leading outlet for hospital equipment and supplies in the Federal establishment. The Public Health Service furnishes sup-

Fig. 2. Scene at the laboratory, where preliminary tests are held in connection with the purchase of hospital supplies for the United States Government. Recording readings of clinical thermometers at the United States National Bureau of Standards.

plies to about 125 "stations," of which number 22 are regular hospitals and the others are dispensaries, quarantine stations, etc. Of the $65,000 worth of hospital supplies required annually for this country-wide chain of institutions, about $60,000 worth is bought in accordance with the general supply schedule above referred to, and virtually all of these purchases are delivered to the pharmacist purveying depot of the service located at Washington, D. C.

The conduct of this purveying depot, an institution that is unique in many respects, might afford object lessons to many men who are concerned with the problems of the storage of supplies at hospitals. Some three thousand articles are regularly carried in stock at the depot, and the reserve stock usually inventories about $25,000. Despite the proportions of this surplus, however, every effort is made to turn it over frequently in order that fresh stock may always be available. That this is not difficult, though, may be surmised from the fact that last year 868 separate requisitions, many of them covering great numbers of items, were filled. Hospital executives all over the country are encouraged to place their orders at the semi-annual periods when the purveying depot stocks up, but, of course, special requisitions are honored at any time.

It is by no means the invariable procedure that hospital supplies bought for the Public Health Service must be sent to Washington, given place temporarily on the shelves of the purveying depot, and, when called for, dispatched to any destination where need exists. On the contrary, in order to eliminate lost motion, many shipments are made, without breaking bulk, from the manufacturer or supply contractor direct to the hospital where the goods are to be consumed. Last year such direct shipments totaled 255,000 pounds as against 185,000 pounds sent from the stock of the purveying depot.

The procedure to be followed in filling a requisition depends to a considerable extent on the urgency of the demand and also on the state of the reserve stock of the

Fig. 3. Whirling machine at the National Bureau of Standards for testing registering device of clinical thermometers. Testing of hospital equipment and supplies is carried on primarily as a guide for the Federal officials who make hospital purchases.

article called for. For instance, a few weeks ago the purveying depot received a hurry call from a United States hospital that was in immediate need of 5,000 yards of gauze. To fill the order almost cleaned out the stock at the depot, but the officials knew that a supply of 25,000 yards was due to reach the depot from the manufacturers within a few days, and so they took a chance in depleting their stock. Under normal conditions the hospital that made the emergency demand would have been asked to get along with 2,500 yards from the reserve stock until a further supply could be ordered from the contractor.

Officials in charge of the storage of hospital supplies at the purveying depot at Washington, and likewise at the medical supply depots under the Navy Department and the War Department, all bear testimony to the convenience of handling supplies that are apportioned in standard units. Gauze, for instance, in 2,500-yard units is claimed

to make for ease in handling. That the Federal purchasing system, whatever else may be said of it, has served the purpose of economy is attested by the fact that carefully kept accounts covering the operations of three representative United States marine hospitals show that under the plan of competitive bids and orders under contract the supplies for these three institutions are today costing 35 percent less than was expended under the old system of outfitting.

For all that businesslike methods have been introduced to a liberal extent, there yet survive in Federal hospital outfitting a number of details that would probably be denounced as "red tape" by hospital men in other fields. For instance, in the navy and army hospitals surgical instruments and appliances that have become unfit for further use must be "surveyed and condemned" before others will be issued to replace them. A commendable effort is being made, however, to so arrange the purchase and distribution of medical stores and hospital supplies as to avoid congestion. In the navy, for instance, for all that there is adherence to the above described plan of semi-annual requisitioning, it is planned that requisitions for hospitals shall be turned in on March 1 and September 1, for yards and naval stations on April 1 and October 1, and for receiving ships and ships in reserve on May 1 and November 1.

The present movement on the part of the national administration and Congress in behalf of military preparedness contemplates a considerable expansion of the activities in connection with the purchase of hospital supplies, and this extension has been made more immediately imperative by the operations in Mexico. Major-General William C. Gorgas, the surgeon-general of the United States army, stated a few days ago that, whereas the War Department has packed and ready for shipment medical and hospital supplies sufficient for 250,000 to 300,000 men, this supply, under war conditions, would not last more than five or six months, and consequently heavy emergency purchases would be necessary almost from the outset of war operations on a large scale.

LETTERS TO THE EDITOR

Hospitals and the Noise Nuisance

To the Editor of THE MODERN HOSPITAL:

It is high time that respectable citizens arouse themselves to make a vigorous protest against the continuous violation of the quiet zone ordinance intended to protect our sick in the hospitals of our large cities. It is almost impossible for the hospitals to enforce this ordinance unless they hire sufficient police to surround their property day and night. Chauffeurs, truck drivers, peddlers, roller skaters, drunken men and women at night—even the ordinary auto owner with cut-out open—take no heed of the quiet zone signs. Funeral processions make no effort whatever to avoid the hospital streets.

A particularly atrocious incident occurred recently in Chicago. In spite of quiet zone signs well lighted, about nine o'clock an auto procession of enthusiasts for one of our candidates for alderman went south on Hermitage Avenue, passing the Presbyterian Hospital, which contains about four hundred sick people. A brass band was sounding forth horrible blasts, while the crowd shouted, yelled and blew tin horns. As they passed the hospital a man in one car shouted up at the windows, "Are you all asleep up there?" and then they yelled again and blew horns. There were several very sick people within 75 feet of these yelling hyenas. One patient, as I write these lines, is in a dying condition, and no one can tell how much this demonstration contributed to hastening his death and to the very serious condition of some of the other patients.

Our hospitals are caring for the sick of Chicago, regardless of creed, color or social condition. We have no fight with politicians or political enthusiasts, but the sick in our hospitals demand from the citizens of Chicago the protection they deserve. Drastic measures should be taken to enforce the quiet zone ordinance. If this candidate sympathizes with the sick as he should, he will set the example by publicly condemning Saturday night's demonstration in the midst of our hospital district.

ASA S. BACON,
President Chicago Hospital Association.

Reports of Hospital Economies Desired

To the Editor of THE MODERN HOSPITAL:

I am to prepare a paper for the next meeting of the American Hospital Association on "Reliable and Practical Economies in Hospital Management." To aid me in gathering material for this paper would you kindly find place in your columns for the following:

Hospital superintendents who have found ways of cutting expenses in these times of high prices and are willing to share this knowledge with other institutions are invited to send their suggestions to the undersigned. The material will be used in preparation of a paper for the annual meeting of the American Hospital Association in Cleveland, next fall. Address all communications to

WALTER MORRITT,
Superintendent, Bethel Hospital, Colorado Springs, Colo.

Fumigation in Hospitals

To the Editor of THE MODERN HOSPITAL:

About a year ago I investigated the matter of fumigation a little for our purposes here at the Robert Packer Hospital, and I found there was a very great difference in the methods used in different hospitals. I believe a questionnaire addressed to the entire membership of the association would be of considerable assistance.

The following is the one I have drawn up:

1. Do you fumigate operating rooms after suppurative cases?
2. Do you fumigate private rooms after suppurative cases?
3. Do you fumigate rooms after death?
4. Do you fumigate rooms after
   (*a*) typhoid fever?
   (*b*) contagious diseases?
5. Do you carbolize or sterilize mattresses after
   (*a*) all pus cases?
   (*b*) contagious diseases?
   (*c*) death?
6. Do you fumigate clothing of ward patients on admission?
7. Just what technic do you follow in fumigation?

I shall appreciate it very much if I may have replies from the readers of THE MODERN HOSPITAL.

H. E. BISHOP,
Superintendent Robert Packer Hospital, Sayre, Pa.

"Good morning, Mrs. McCarty!" said Mrs. Ryan, as the friends met at the market. "How's all the folks getting along?"

"They be all doin' well," replied Mrs. McCarty, "except my old man. He's been enjoyin' poor health for some toime, but this mornin' he complained of feelin' better."—Kansas State Board of Health.

HINTS FOR HOSPITAL SUPERINTENDENTS.

Economy in Pencils and Penholders

While prices are soaring, the superintendent has to do a great deal of studying about ways to economize, and quite often he is likely to overlook the little things.

A lead pencil is a very small thing of itself, but your pencil bill for a year is quite an item. This is also true of penholders, which, after the end is disfigured or the paint rubbed off, are usually consigned to the wastebasket. This is, too often, the fate of the pencil stub. You will be surprised at the saving which can be made by insisting on your people returning old pencil stubs and penholders in exchange for new ones.

By using nickel stems or ferrules for splicing, pencil stubs can be utilized. The nickel tip that holds the eraser on the end of the pencil can be used in making brushes for library paste, stencil marking, etc. The bristles from a worn-out floor brush can be used for the brush, and a cast-off penholder makes the handle.

It is quite a saving to make your own library paste, which is very easy to make, according to the following formula:

8 oz. wheat flour.
¼ oz. alum (powdered).
1½ oz. glycerin.
1 dram oil of wintergreen.
1½ pints water.

Mix water, flour, and alum to a smooth paste, boil till it thickens (being careful not to burn or cook too much), take from fire, add oil and glycerin, and mix thoroughly.

ASA S. BACON,
Superintendent Presbyterian Hospital, Chicago, Ill.

Isolation Units

Almost every community wakes up occasionally to see under glaring headlines in its daily papers that one or more local hospitals have refused to accept desperately sick patients, who have died in the ambulance shortly afterward, on the road to some hospital that might be induced to take them; or, some local hospital has declined to accept a case of one of the diseases of childhood, such as diphtheria or scarlet fever, and in the hysterical attempt on the part of the family or the ambulance driver to find some place to deposit his unwanted burden, a good part of the community is "exposed" to the disease.

A hospital can be more grievously injured in the esteem of the public by even an apparent unwillingness on its part to accept a patient in extreme need than by any other one thing, and yet a good many hospital superintendents are quite callous to such criticism. If they but just stop to think that public opinion fixes the amounts of money given for charitable and philanthropic purposes, they would make a good deal more exertion than they do to influence public opinion favorably.

To our way of thinking, there is no excuse whatever—or ever—for a hospital's turning away a patient in extremity. There can always be made room for just one more, and the superintendent who has the best interests of his or her hospital at heart will try to make that room, and a little careful thought and a little ingenuity will almost always succeed in doubling up patients or in turning some room that is customarily used for other than patient purposes into an emergency sick room.

We are rapidly coming to the conclusion in this country, and that conclusion is being expressed more and more in public opinion, that a hospital is a place for sick people, and that an institution that cannot care for the sick, but that picks and chooses the kind or degree of sickness it will take, ought to be put out of business. A hospital that is known to accept and care for all who come seeking relief is the institution of all others in a community to which will be donated the necessary funds to carry on its work. The hospital in this country which has the largest endowment fund of any similar institution in the world, a fund generously and liberally, even lavishly, given to it, has this standing motto: "No sick person is ever refused admission." And in this connection we recall a little story of a fine old Irish gentleman, now gone to his fathers, who was once asked how he managed to feed and clothe his family of fourteen children, all of whom were born when he was a very poor man, working for daily wages. "Well," he said, "with every one that came, God seemed to send something along to take care of it."

The Hospital Inventory

Every once in a while some "efficiency expert" or a trustee who happens to be in business, proposes that the hospital take and keep inventories. Rarely does the proposer explain just what he means by a hospital inventory. At the end of the financial year very many commercial houses make inventories and use these as a part of their financial statement.

An inventory for a hospital is a vastly different thing. Just what are you to inventory of the hospital's assets? We can and should keep an inventory of furniture, linens, dishes, food supplies and hospital commodities in bulk, such as canned goods, janitor's supplies of soap and so on; but think of the amount of work and the unsatisfactory results of an attempt to inventory the surgical silk on hand, needles, gauze, miscellaneous rubber goods that are in use on the wards. Think of attempting to inventory the contents of the pharmacy! All these things can be inventoried, but there comes a time in hospital management when the expense in time and labor of doing a thing are not by any means compensated for in the results obtained.

Teaching in the Hospital

A hospital that does not teach is an extremely poor institution; there ought to be a teaching atmosphere in every hospital, large or small, special or general. The doctors teach each other and learn from their own experiences; the nurses are taught by the doctors, by the interns and by each other; the help downstairs are taught by those upstairs; the patients are taught by their doctors and by the nurses; and visitors who come to see the sick are taught by the hospital folks.

The teaching done in the hospital goes out into the community and becomes one of the most valuable assets. These teachings are expressed in the hygiene and sanitation in the homes of the people, in the purchase, preparation and consumption of foods. If an accurate calculation could be made of all the good that a good hospital does in a community, the care of the sick in its beds would be insignificantly small in the account.

Getting Ready for Summer

How about your window and door screens? Are they in good order and painted and ready to be put up the moment the first fly appears? If they are not, you are overlooking something.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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THE COOK COUNTY TUBERCULOSIS HOSPITAL, OAK FOREST, ILL.*

Benefits of the Graduated Labor System—Patients Perform Necessary Labor of Institution Under Advice and Observation of Their Physicians—Pleasure and Satisfaction Felt in Accomplishing Tasks—Open-Air Treatment Afforded in Cottages

By HENRY L. BAILEY, General Superintendent, Oak Forest, Ill.

THE Cook County Tuberculosis Hospital at Oak Forest, Ill., stands as a monument to the generous and humane instincts of Cook County's residents. Situated twenty miles from the business center of Chicago, its location is ideal. It is on the main line of the Rock Island system and has ample railroad facilities. Built on the county's farm of some 350 acres, adjoining the county infirmary, among shady groves of oak, the cottages are all that modern architecture could suggest, and no pains have been spared to bring and keep the furnishings and equipment of the various buildings up to the highest standard from an esthetic as well as a scientific point of view. Beautiful lawns and flower beds are everywhere to be seen, never lacking exacting care and attention, and cleanliness to an extreme degree prevails in every quarter of the premises. The tables have all the good things required. Under the direction of the physician, the patients are treated with homelike kindness, and it is no wonder that such hearty cooperation and friendship is apparent from every side.

The medical staff is composed of ten eminent physicians, and fifty competent nurses minister to the sick. At present there are nearly seven hundred patients taking treatment at the hospital.

To be convinced of the steady growth of public confidence in the Cook County Tuberculosis Hospital, one has only to glance at the liberal advance in yearly admissions since the establishment of the institution about six years ago:

1913	765 patients admitted
1914	1,136 patients admitted
1915	1,557 patients admitted
1916	1,694 patients admitted
1917 (first four months)	409 patients admitted

In the early days of this hospital the men patients outnumbered the women in the ratio of 11 to 1. Today the women patients constitute nearly 27 percent of the hospital's population.

Beneficial results obtained from introducing the latest scientific methods for the treatment of tuberculosis patients overcame the dread of institutional care and led many sufferers to seek admission. The open-air treatment in the cottages seems to appeal chiefly to women and has proved especially beneficial to them.

Following the usual hospital admission routine, with strict instructions regarding sputa and coughing, the newly admitted patient is sent to the observation ward, where he is kept under careful watch for two or more weeks, during which time he is taught the routine of the institution, including most careful instruction concerning hygiene, and regularity of hours of rest and exercise. Physical examinations are made and recorded during his sojourn in this ward, the sputa and urine are tested, and other laboratory examinations are made and recorded in cases so requiring. In addition to these records, those of general, industrial, and sociological information, together with the personal history of each par-

*The views of the hospital which accompany this article are shown by courtesy of Messrs. Schmidt, Garden & Martin, the architects of these buildings.

ticular case, are carefully prepared and filed for constant reference and further study. Physical and sputa examinations of every case are made at periods of thirty to sixty days, and these are carefully studied, classified, and filed with the record of the case.

About 70 percent of the cases are far advanced when received at this hospital. For these patients the institution is a home with as much individualization, kindness, and care given as the routine and discipline and necessary hygiene of a large institution will permit. Here the patients obtain the benefits of hospitalization that would otherwise be possible. In this sense it is a great isolating hospital for those who might infect others, as well as a great school, not only teaching the tuberculous to avoid infecting others, but also in a broader sense educating physicians, nurses, patients, employees, and the community at large.

In the few moderately advanced and incipient cases, sanatorium treatment is used to advantage, adding "graduated labor" as advocated by Dr. M. Patterson, of Frimly, England; tuberculin is employed in selected cases; solarium treatment for glandular and bone cases; artificial pneumothorax and other operative measures are auxiliary means of treatment to the usual fresh air, food, and rest.

Fig. 1. The Cook County Tuberculosis Hospital at Oak Forest, Ill.

The "graduated labor" plan is carried out by applying the principles of auto-inoculation worked out by Dr. Patterson. During the early stages of tuberculosis, rest is necessary to check the progress of the disease, but rest weakens the muscles and exercise is needed to restore them so that the patient may be able to perform light work.

This is probably the first institution that has had graduated labor patients do the menial work of the institution under strict medical supervision. Necessary and useful labor has long been employed, but it has not been under careful, efficient medical supervision; the urgent, sanitary needs of the hospital, rather than the good of the patient, seemed uppermost. Under graduated labor this has all been changed. The exercise of patients is not a haphazard assignment; it is a daily prescription from the physician, given as a therapeutic measure, not as a labor that must be accomplished as a sanitary necessity.

"Cured, but unfitted for labor," was the criticism and actual logical outcome of the old plan. Under graduated labor it has been transformed to "Cured and fitted for work."

The patients at this hospital are now doing the necessary housekeeping duties of the cottages, building and cleaning walks, excavating, laboratory work, clerical duties, individual sewing, ironing and needlework, gardening, care of lawns, and wickerwork, besides many other light chores and labor; sweeping, scrubbing, window-washing, cleaning of bathtubs and toilets, woodwork, etc., carrying in coal, together with the digging and moving of a clay bank, the building of cinder walks, and clerical work on charts and in the laboratory, are some of the occupations of the men; these tasks are alternated with walking from fifteen minutes to two hours once or twice daily. The women clean woodwork and sinks, polish brass, sew, crochet, knit, mend, and do clerical work on records and in the laboratory, besides walking prescribed distances.

All this is done as a personal prescription from the physician. No demur has been noticed, but instead a new spirit of contentment and eager anticipation has taken hold of the patients, and the approach of the hour scheduled for the performance of these prescribed undertakings is looked forward to with much delight. Having thus performed the task assigned to him, always under the careful guidance of the physician in charge, the patient seems to realize that he is homeward bound toward health, liberty and the pursuit of happiness, as well as a useful life. Alternating with the light labors mentioned, the walking exercise is not overlooked, and is gradually increased from time to time, as the particular case requires.

It is our policy to have the patients' labor expended in constructive work. This means that there is a reason for all the work that is done—that something is being accomplished. Carrying buckets of clay back and forth from one pile to another is not conducive to interest and healthful content among the workers. To prescribe a walk

around one path time after time, day in and day out, is not the way to secure cooperation. Our patients are digging away at an unsightly clay bank and filling a gaping hole at the end of one of the cottages. They are walking on the country roads with a nurse or appointed captain, who acts as a monitor. They have built a toboggan slide

Fig. 2. A portion of the south front of Oak Forest hospital, showing the outside of the sleeping porches.

on a side hill. The zest and enthusiasm manifested in all of these undertakings is a source of great satisfaction to those in charge. Recreation in the form of walks, games, etc., and the presence of the physician working with them proves a great incentive in the continuation of the exercise.

The plan, as outlined in a paper read before the Lake County Medical Society by Dr. Bay, is as follows:

"After the patient has been in the institution at least two weeks and is making his own bed, going

Fig. 3. An interior view of one of the sleeping porches, Oak Forest.

to the dining hall, and walking fifteen minutes twice daily, he is sent to the Cottage Department. Here he is instructed in the use of his thermometer, in taking his pulse and the recording of same on his chart. He is also told the danger signals of an 'overdose' and instructed that should he have a headache, malaise, chest pains, a temperature of 99 degrees, or any other untoward condition that he might consider a sufficient reason, he is to go to bed and notify his nurse. He is not to resume his exercise until same is again prescribed.

"After these instructions, he is on 'rest'; that is, lies down or sits in his sanitarium chair three days, but is allowed to take his meals in the dining hall. After three days (with a normal temperature), he is given fifteen minutes' walk in the morning. After he has been on thirty minutes' walk for six days, he is given, in addition fifteen minutes' light cleaning, and this, or the walk, is increased five minutes every third or fourth day until he is doing two hours' light cleaning in the morning and one hour to one and one-half hours' walk in the afternoon, when, in addition, he enters the 'bucket brigade,' or sweeping or mopping gangs. In the 'bucket brigade' he carries (on the present piece of work) ten pounds of clay, five trips, seventy-five feet, increasing one daily to thirty-five trips, when he is given an ordinary light shovel and helps fill the buckets for his companions, commencing thirty minutes a day and

Fig. 4. One of the tuberculosis cottages, Oak Forest.

increasing five minutes a day. The patients are instructed to carry one bucket with one hand and alternate with the other.

"This plan of work is original with this institution, and every sanitarium must work out its own problem, based on the kind and character of the patients and the work that is available."

Very noticeable is the increasing appetite and weight of the patients of this hospital, coupled with a striking picture of contentment and satisfaction throughout the exercise classes. No complaints are ever made concerning the food. This is particularly noticeable among the young women who, as tuberculous patients, are notoriously poor eaters. It requires an appetite to enjoy food, and with their time occupied in useful work they eat their meals with a relish which is marvelous, when compared with patients before this graduated labor system was introduced.

I have never known persons who exposed themselves for years to constant interruption who did not muddle away their intellects by it at last. The process with them may be accomplished without pain. With the sick, pain gives warning of the injury.—Florence Nightingale, "Notes on Nursing."

HISTORY OF OCCUPATIONAL THERAPY*

Occupation for Patients Advocated by Benjamin Rush in the Eighteenth Century—Many in Early Times Recognized the Therapeutic Value of Work—Early Work of Bethlehem Hospital Abroad and McLean Hospital in This Country

By WILLIAM RUSH DUNTON, Jr., Assistant Physician, Sheppard and Enoch Pratt Hospital, Towson, Md.

MY subject is a rather big one in that it requires a tremendous amount of looking over journals, hospital reports, and other publications, which work I have not yet completed to my satisfaction. I have, however, come across some very interesting records of men who in the past have advised work as a therapeutic agent in the treatment of mental diseases. The earliest which I have found is that of Benjamin Rush. In 1797 he wrote a letter to the managers of the Pennsylvania Hospital, advocating that certain forms of labor be given to the patients, as it would be for their benefit.

In 1813 in another letter to the managers he reiterates his advocacy of work as a therapeutic measure, and makes a number of other recommendations which are quite modern in their tone.

As yet I have been unable to spend much time looking up foreign sources, so I have confined myself chiefly to collecting references of occupation being used in this country, but Reil, in his "Rhapsodieen," published in 1803, advocates the use of work as a therapeutic agent, pp. 240 and 246). It will be remembered that Reil was at Halle, was born in 1759 and died in 1813. His "Rhapsodieen" has recently been made the subject of a study by Dr. William A. White of the Government Hospital, who has found in it many references of psychotherapeutic interest.

Dr. Russell of Bloomingdale has recently had reprinted a pamphlet which was written by Mr. Thomas Eddy, manager of Bloomingdale Hospital in 1815, giving his views as to the establishment of a new Bloomingdale, which was at that time in close position to the New York Hospital. In this he makes several recommendations that means of employment be provided for the use of patients; he evidently recognized its therapeutic efficacy.

In "The Story of the Bethlehem Hospital," E. G. O'Donoghue writes (page 307):

"As early as 1822 Lord Robert Seymour had urged with great truth and force that some form of employment was one of the best medicines for certain forms of mental malady, where it is necessary to divert painful thoughts or restart the machinery of a lethargic mind. He suggested that the making of mats, paper bags, and felt slippers might be safely entrusted to the patients, but it was not till the beginning of 1844 that the workshops were completed. In them from this date for another ten or fifteen years painting, glazing, engineering, and other trades were followed by male patients under the superintendence of attendants skilled in the various handicrafts."

For the period between 1815 and 1852 the patients admitted to this hospital were mostly of an artisan class.

In the report of the McLean Hospital for 1822, Dr. Wyman, the superintendent, writes that "the amusements provided in the establishment for lunatics, as draughts, chess, back-gammon, ninepins, swinging, sawing wood, gardening, reading, writing, music, etc., divert the attention from unpleasant subjects of thought and afford exercises both of body and mind [and] have a powerful effect in tranquilizing the mind, breaking up wrong associations of ideas, and inducing correct habits of thinking as well as acting."

At the same hospital another superintendent, Dr. Bell, in his report for 1839, says: "The experiment of mechanical labour was here first introduced, and the safety, expediency, and immense utility of putting tools into the hands of the patients entirely and satisfactorily decided." There has been a carpenter shop for patients in this institution since 1834.

In 1837 the Hartford Retreat published a periodical in charge of patients, which was called the *Retreat Gazette*. This is believed to be the first of these hospital papers of which so many have appeared from time to time. A later one, which attracted a great deal of attention, was *The Opal*, published at the State Lunatic Asylum at Utica, N. Y., the first issue of which, I believe, appeared in 1850.

About this period, the first half of the eighteenth century, it is difficult to find references excepting in hospital reports, which, as you may imagine, are very difficult to locate, but there are occasional references in books, for example, that of Dr. Galt of Williamsburg, which was published in 1846. Dr. Galt makes quite a strong plea, saying:

"If there is any secret in the management of the insane, it is this: respect them, and they will respect themselves; treat them as reasonable beings, and they will take every possible pains to show you that they are such; give them your confidence, and they will rightly appreciate it, and

*Read at the Consolation House Conference, Clifton Springs, N. Y., March 15-17, 1917.

rarely abuse it. Place a man in a solitary, and he will most certainly tear his clothing, besmear himself or his apartment. *Give him society and employment*, and his self-respect will prevent his resorting to so degrading practices, and his mental and physical excitability will be otherwise expended. [This is probably a quotation from Dr. Samuel B. Woodward, superintendent of the Worcester Hospital.]

"No class of patients is so happy as the laborers; no other convalescents recover so rapidly and favorably; many of these would be completely miserable without labor, and their recovery hazarded. The patient enters by it into accustomed channels of thought and action, and the mind performs rationally at labor, if insane everywhere else. . . . We think highly of employment to procure rest, give strength, promote appetite, and facilitate recovery. When our patients begin to mend they desire employment. Common amusements of hospitals are useful, and far better than nothing, but will not compare with labor as a means of restoration. It is true that 'all work and no play makes Jack a dull boy.' It is no less true that all play and no work becomes insipid after a while, and does not give that healthy impulse to the mind which the idea of utility in labor is sure to impart. [Illustrative case.] Dr. Earle says: "In no institution for the insane has manual labor been more extensively introduced as a part of the moral treatment, and in no one has its utility been more satisfactorily demonstrated.'"

In the *Journal of Insanity*, however, the first issue of which was published in July, 1844, we find quite a number of interesting references. Some of those are to the work being done abroad, but the great majority are those which refer to occupation in this country. The Pennsylvania Hospital, for example, had a special workshop, as also had the McLean Asylum. Utica had a whittling shop.

It would be extremely interesting to go over these in detail, but we lack the time. I hope that later on I may be able to make a formal article out of some of these references. At present I shall simply refer briefly to a few of what seem to me the most important of these, not attempting to keep a chronological order. Quite a number of these references are to the work being carried on abroad and at Bethlehem.

In the late forties a writer on "Lunatic Asylums of England" states of Bethlehem that "from possessing no amusements, the patients now have cards, skittles, etc.; and from there having been little or no opportunity of employment the patients of both sexes are provided with materials for occupation; some are placed in the Garden; others in the Laundry, in Shops or Needle Rooms; a Loom was erected; Tailors, Shoemakers, Carpenters, and Papier-mache Shops have been established:—the patients are now urged, by small gratuities, to employ themselves; and a considerable proportion, fluctuating from time to time but amounting sometimes to 150 of each sex (ordinarily three-quarters of the patients), are employed in the asylum. And it is stated that the system of employment diminishes the necessity of restraint." It would appear from this that occupation had not been carried on at Bethlehem uninterruptedly since 1822, as we might infer from what the Rev. Mr. O'Donoghue has said.

Other references about the same time are to educational methods applied to the cretins of Switzerland, to occupation at the Royal Edinborough Asylum, and later Dr. Pliny Earle, at one time physician to the Bloomingdale Asylum, wrote an account of a visit abroad which was afterward published in book form under the title of "Institutions for the Insane in Prussia, Austria, and Germany," in which he goes into considerable detail regarding the care and treatment of patients. In his account he notes the various forms of occupation which have been used, and one gets the impression that during this time, both at home and abroad, the viewpoint of psychiatrists toward occupation was very similar to that which is held by this society, namely, that occupation in the hospitals should be used as a therapeutic measure and not as a means of gain.

In Volume X of the *Journal of Insanity* will be found an extremely interesting article, "On the Construction and Organization of Establishments for the Insane," translated from the French of Henri Falret. In discussing the construction of the hospital and the number of rooms, etc., which it should have, he takes up the question of workshops and says that "for the work of women and certain occupations of men the ordinary rooms can serve as shops, but it is necessary to have special places appropriated for the different kinds of trades, such as the shops for joiners, carpenters, shoemakers, locksmiths, weavers, etc."

In the same paper he devotes considerable space to the discussion of occupations and amusements for the insane, together with occupation for women—music, theatricals, schools, and reunions.

He gives several interesting references to other writers, and begins the part on occupation with:

"Since Pinel has demonstrated the happy effects of occupation in asylums, all physicians concur in the opinion that it is one of the most important employments in the treatment of the insane and in the organization of the establishments destined for their reception. Is it not the best and most effectual way of regulating their life, of fixing their attention and diverting them, of giving their faculties a positive and well-determined direction; in one word, of regulating their physical and moral actions?"

Besides this reference to Pinel, he refers to Isaac, Reil, Esquirol, Guislain, Rush, Nostiz, Frank, Roller, and Horn.

Dr. Yellowlees, in the third report of Glamor-

gan County Lunatic Asylum for the year 1867, says:

"Nothing is so conducive to health, both of body and mind, as suitable occupation; and nothing tends more to promote contentment and recovery. Great pains are therefore taken to find employment of some kind for all who are capable of it.

"The ordinary domestic work of the wards, of course, furnishes occupation for a large number on both sides of the house. The women are also employed in sewing and knitting, or in the laundry and kitchen. The men work in the garden and fields, or with the tradesmen, as tailors, masons, and blacksmiths. Their only remuneration is luncheon in the forenoon, and an extra allowance of snuff, tea, or tobacco. The numbers employed are very large, averaging nearly three-fourths of the entire number of patients. The economic value of their work is therefore great, while the gain to themselves in health and happiness is greater far.

"Amusements are much less valuable as a means of treatment than occupation, but they are very necessary to relieve the monotony and routine of asylum life. All kinds of games are therefore encouraged and the weekly ball continues to be enjoyed as much as ever."

Dr. Kirkbride, one of the leading advocates of work as a therapeutic agent, in his articles on construction, management, etc., of hospitals for the insane, and in his book, which was amplified from the articles, has dwelt in considerable detail on the subject. In his report of the work of the Pennsylvania Hospital for 1865, Dr. Kirkbride says:

"It is really important that ample provision should be made, in connection with every hospital for the insane, for the mechanical employment of those patients who are likely to be interested in such pursuits, and whose mental and physical condition makes it desirable that they should have such forms of occupation. Much discretion, however, is always necessary in directing labor for the insane, and most, perhaps, when mechanical employments are engaged in. The medical officers alone can properly prescribe it, and they should always carefully observe its effects on the patients, and the mode in which they perform the work assigned them. All efforts to make the labor of the insane profitable to an institution are liable to render it a disadvantage, instead of a benefit, to the patients. If entrusted to ordinary persons, and with the understanding that the more profitable pecuniarily the work of the patients is made, the better their employers will be pleased, it is almost certain that not a few will be required to do more than is proper, and that uncomplaining persons will often suffer from attempting what is really beyond their physical capacity. This applies particularly to cases somewhat acute in their character, in which there is often a morbid activity and energy; but it is also true of the chronic and demented, the very classes which are relied on to reduce the cost of taking care of the afflicted, when it is proposed to prepare separate institutions for the insane who are supposed to be incurable."

Again, in his report for 1860, he writes:

"Moderate, wisely regulated labor is really serviceable to many of the insane, but hard work, so carried on as to be profitable to any institution, is very rarely of benefit to the patients, while often it is injurious to an unsuspected extent to a class whom excitement of disease stimulates to extraordinary exertion. . . . The labor problem in regard to the insane is probably best settled by the conclusion, that it is hardly possible to exaggerate the importance of some kind for every class, but also that harm quite as easily as good, may follow employment in unwise forms, and that a practical knowledge of the whole subject in regard to kind, amount, and the physical and mental conditions of those on whom its effects are to be tried, is quite indispensable to secure the best results from its use."

It should be remembered that the term applied to this form of therapy was in those days "moral treatment" or "labor." The term "occupation" came in somewhat later.

A very striking sentence may be found in Vol. XXIV of the *American Journal of Insanity*, page 117, in an address entitled "The Psychopathic Hospital of the Future," which was delivered by Dr. Pliny Earle at the laying of the cornerstone of the Middletown Hospital. This is extremely interesting in view of the very modern ideas advanced by Dr. Earle in 1868 in regard to hospital administration. In regard to occupation therapy, he expresses the belief that patients should be forced to work, and says: "The physician, *rational*—or at least, *supposed* to be—approves, commends, and recommends, but permits the patient, known to be *irrational*, to decide and, in effect, to prescribe or to withhold."

It has interested me to note that between the forties and sixties the majority of psychiatrists advocated work as a therapeutic measure, and at all times have we found certain men who have been advocates of occupational therapy. Dr. Kirkbride and Dr. Ray are two of the most conspicuous who come to mind at the present time. It would appear, however, that for a time, probably between 1860 and 1890, hospital superintendents and physicians rather lost sight of the therapeutic application of work and regarded it more from an economic point of view. Possibly the fact that readjustment was necessary after the Civil War made this point of view seem the most important one. In the nineties we apparently find men beginning to take greater interest in the subject, and after the beginning of this century we find that persons were beginning to attack the subject in a more scientific way than had formerly been done. I think that Miss Tracy had a great deal to do with this, and the publication of her book certainly gave the subject quite a strong stimulus.

I fear that I get somewhat enthusiastic in quoting these references, which are so very interesting to me. It will take a considerable amount of labor before they can be arranged chronologically and properly under certain headings. I do not wish to inflict too much upon you at the present time.

REMUNERATIVE OCCUPATIONS FOR THE HANDICAPPED

The More Useful the Work the Better the Therapeutic Effect—Products Best Marketed by Organized Effort—Worker Should Be Kept Up to High Standard

By HERBERT J. HALL, M. D., Marblehead, Mass.

WE hear more and more about the value of work as a remedy. It seems clearer now than ever before that idleness, long continued, is a menace not only to the proper functioning of the body, but also to the morals and spirit of the individual. Nearly every sanatorium or asylum that pretends to be progressive has its organized occupational department. Doctors and nurses are strong in their praise of the new remedy—for the remedy is new in its systematic and intelligent application. The occupations that are employed therapeutically range all the way from work in the service of the institution to a virtual play in the construction of rather useless articles of the so-called arts and crafts order.

After some thirteen years' experience with therapeutic occupations, it is very plain to me that, short of actual drudgery, the more useful the work, the better its therapeutic effect; and conversely, the more trivial and valueless the product of the work, the less effective will it be in the therapeutic sense.

It is hardly necessary to insist that there are grave economic reasons why we should "make every shot tell" when we are dealing with people who are public charges in charitable institutions and who may in a considerable degree contribute to their own support. It should be hardly less evident that men and women who are being restored to independence after accident or injury should be working along lines that lead directly back to the various productive trades. My own experience has been largely with the well-to-do who are seeking health and efficiency through the retraining and reorganizing of their faculties by means of specialized occupations. I find that here also useful and commercially valuable work has a decided moral and developmental value.

Those who are seriously interested in economic and therapeutic occupations for the handicapped can hardly do better than consider the vocational activities of the Military Hospitals Commissions in Canada and abroad.[1] These commissions are grappling man fashion with the industrial problem of the convalescent and crippled soldiers. In Canada, as well as in England, France, and Italy, they are not waiting for the soldiers to become chronic idlers. They recognize the fact that even the idleness of prolonged convalescence is a danger to the individual and to the state.

Fig. 1. Interior of the workshop, Devereux Mansion, Marblehead, Mass.

Prof. Jules Amar, Directeur, Laboratoire des Recherches sur le Travail Professionel, Paris, says in a paper called "Organization of the Training of the Disabled,"[2] "A too prolonged stay in hospitals and convalescent homes is the true cause of idleness. The reeducation of joints and muscles, followed by exercises in his trade, so harmonized as to assure for the individual the maximum of his output, must begin in the convalescent home before medical treatment is finished. . . . How many are capable of being reeducated and how many are doomed to be assisted? By consulting former experience and on the faith of the soundest proof, 80 percent of the mained are capable of vocational reeducation.

[1] I am indebted to Mr. T. B. Kidner of Ottawa for what knowledge I have of the Canadian industrial situation.

[2] Special Bulletin of the Military Hospitals Commission, Canada, April, 1916.

They may be divided as follows: 45 percent totally, that is to say that they may succeed in earning normal salaries, on condition that 10 percent, or thereabouts, specialize. The direction in which they specialize should always be, as has already been said, within the limits of their former trade. Twenty percent may not arrive at full working capacity, as their reeducation is partial, but still give an appreciable output. The directing of men of this class toward their former profession involves a series of scientific observations for the purpose of providing employers with exact knowledge as to the value of each man's output and capacity. Finally, 15 percent will have to practice subordinate trades (*petits metiers*), in which production is small, their reeducation being entirely fragmentary. Whereas 65 percent, representing the first two classes, may be put into ordinary workshops or establish themselves as workmen in their own rooms, the last 15 percent must work in workshops organized for the purpose, where in any case they can earn a bare livelihood. The majority of the 20 percent not capable of being reeducated are dependent upon relief institutions for work; nevertheless, a very small minority attain sufficient productivity to be useful in the workshops."

Fig. 2. Patient at the loom, Devereux Mansion.

Surely here is a brave and practical way of looking at the problem of occupations for the handicapped. Every man who can be made fit must be reinstated in his old trade. Those who cannot compete with able-bodied labor may nevertheless resume their own trades under special and favored conditions. Those who cannot go back to their original work may find remunerative employment in their own homes or in especially devised handicapped workshops.

Why is this not a sensible model for all handicapped industries in our own country? If the little shops, the hospital industries, can be made self-supporting, well and good; if not, they have served a larger purpose. There are a few experimental shops already in connection with our general hospitals. Until recently the Massachusetts General Hospital in Boston had such a shop, and it accomplished excellent results. For two years this cement workshop was entirely self-supporting through the sale of its products. The report shows that during the past year no less than ten men who had been given up as industrially unfit by the social service department were retained at work until they found remunerative positions in the world outside. The shop has been temporarily discontinued because it had begun to run behind financially and there were no funds available to bridge over and to study out new employments.[1] The Tide-Over League in Boston, under the direction of Miss Mary I. Husted, an expert hand weaver, is providing temporary or part-time occupations of a remunerative nature to a considerable number of handicapped women. In Cin-

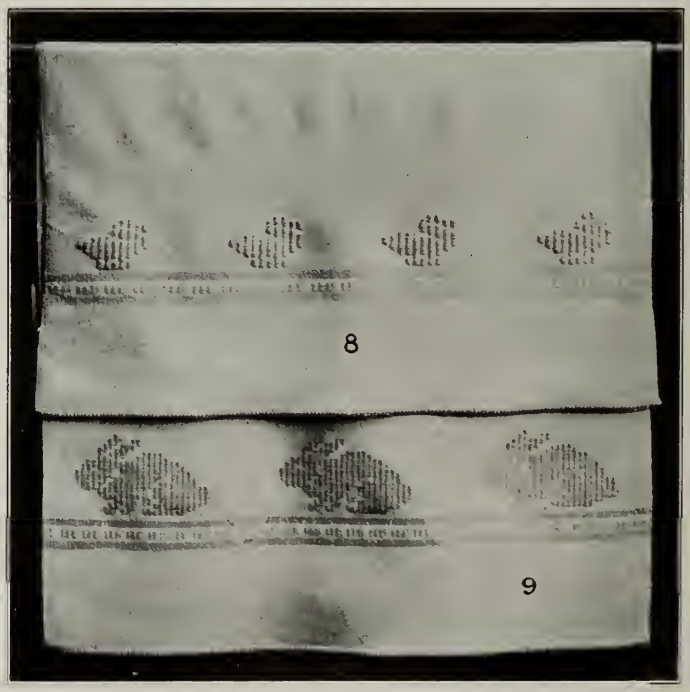

Fig. 3. Two baby blankets made at Devereux Mansion workshops.

[1]This shop paid its workers an average of a dollar a day for their services in making cement flower pots and garden furniture. Those employed were all out-patients of the hospital, living in their own homes and coming to the hospital daily as they would for ordinary medical or surgical treatment.

cinnati, Ohio, there is an experimental shop in connection with the new General Hospital. In St. Louis there has recently been established a weaving shop by the Junior League of that city, for convalescents from the Barnes Hospital. The well-known Sharon-ware workshop in New York City keeps profitably employed a considerable number of cardiac invalids who would otherwise be hospital "repeaters" or actual dependents. There are a good many enthusiastic and effective individual workers in the field of rehabilitation, notably Mr. Barton of Clifton Springs, Miss Susan Tracy, Mrs. Eleanor Slagle, of Boston, and Dr. Mary Lawson Neff, who go about among state institutions organizing industries.

Such work as this is so far tentative and experimental, but it is very hopeful and suggestive. With a little more support and a little better business handling, the convalescent shops would become a very valuable accessory to hospital treatment, and they might become so nearly self-supporting as to add that distinct advantage to their therapeutic functions.

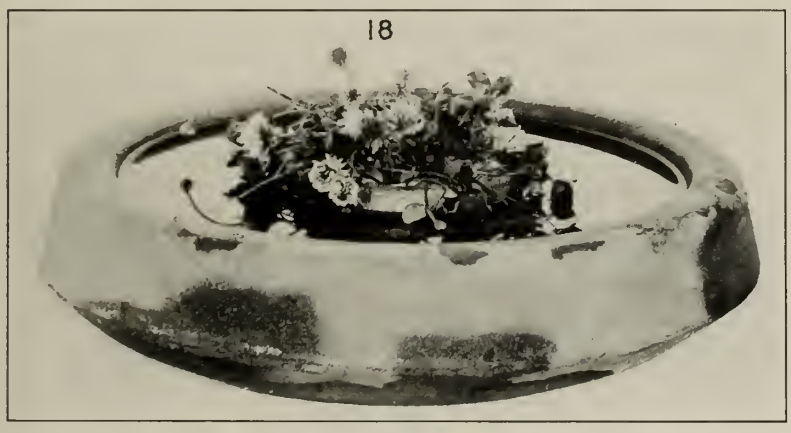

Fig. 4. A specimen of the Devereux Mansion cement work—a bird bath made of cement from a plaster-of-paris mold. Reproduced from "Handicrafts for the Handicapped," by Dr. Hall and Miss Buck, published by Moffat, Yard & Co., New York.

It is significant that some of the large employers of labor are awake to the fact that it does not pay to discharge a man the minute he shows signs of failing in the job he happens to have undertaken. I know of one large firm that gives a man three opportunities to make good, changing him from department to department before he is finally given up as hopeless. In this way they not infrequently discover that the physically weak who are trying to do unsuitable work may prove invaluable in some situation requiring more head work. The reverse is also sometimes true—a big, burly chap is tending a complicated machine indifferently well, wasting the strength which would be of full service in the moving of heavy merchandise.

The legal demands of employers' liability in case of accident or disability may bring about with unexpected force and speed some system of special occupations; for it is becoming more evident daily that the disabled workman tends to be idle an unnecessarily long time when he is being supported or partly supported in idleness. The increasing burden of this kind of taxation may force employers to devise some adequate means of retraining the sick and injured.

I do not pretend to know how the reform will be brought about or what practical shape it will take. I do know, and so do a good many other observers, that something will have to be done sooner or later, whether we look upon the matter as a measure of humane and medical necessity or as a purely economic demand.

Dr. Hornsby has asked me to state what prospect I think there is of disposing of the products of handicapped labor—if the worker trained in hand-weaving, for instance, can hope to be self-supporting after leaving the convalescent shop—when he can no longer depend upon the organization to dispose of his products. I should say in answer to this that such a worker ought never to lose his connection with the organization. He ought always to be watched; he should be constantly supplied with good materials and good designs. He should be kept up to a high standard, and his products could then be readily disposed of through the selling agency of the shops or through his own initiative.

My own work has always been and still is experimental, but so far we have sold or could have sold at good prices practically every article made by my apprentices. This could not have happened without skilled supervision, and skilled supervision should always be available for handicapped workers. In this way the physical or psychic handicap is to a great extent removed.

Frankly, I do not know whether a considerable number of handicapped workers can be made self-supporting in their own homes. Most of my patients are well-to-do and do not need to be supported in this way. Each year for the past thirteen years we have been able to train and equip at least one skilled and especially trained apprentice. Many of these people were handicapped rather severely when they entered the shops. They are now, with one or two exceptions, earning their living, not as producers, but as teachers and supervisors in hospital, sanatorium, or asylum shops.

Teachers like these, thoroughly trained in use-

ful crafts such as hand weaving, offer the best hope of successful industry for the handicapped after they leave the institutions.

I believe that hand weaving offers a very large, a practically inexhaustible field, for a considerable number of women or men, for that matter, who cannot hope to enter the trades or professions.

A good loom costs about fifty dollars—materials may be comparatively inexpensive. The work may be left at any moment and taken up at convenience. Unaided, the results would be pathetic; skillfully directed, the possibilities are excellent. I quote now from "The Work of Our Hands:"[1]

"By developing special patterns and individual effects designed by clever craftsmen, we provide a business capable of supporting a considerable number of handicapped workers. At Marblehead is made a small woolen blanket for babies. The material for one of these blankets costs about sixty cents. If the workers were to weave a similar length and width of plain woolen cloth, they could not sell it for a dollar, but because there is an attractive design and because the piece is finished well, these specialized blankets sell for five or six dollars. It takes about a day and a half to make such a blanket. The factories could not produce the same thing—hand weaving is distinctive and better—but the hospital workshop can take the time, and such a course may mean at least a partial self-support where help is greatly needed."[2]

I do not wish to discourage further attempts along this line, for a very useful purpose may be served, especially if, as in the Marblehead shops, there is careful specialization; but the so-called arts and crafts taught in a few lessons to eager young women can hardly be expected to succeed in any commercial sense. The products must be justified and must command a normal market.[3] If they are to succeed in the best sense, the shops must represent a kind of modified factory system. Then they will serve a two-fold purpose. They will help to restore strength, skill, and confidence to the handicapped and they will, in a small way at least, and for a limited number, earn a real livelihood.

I cannot emphasize too strongly the need of trained and able-bodied workers as a nucleus for every shop of this kind, whether the shops are used for therapeutic purposes only, or with the idea of providing a livelihood for the handicapped, or if they are used as intermediaries between idleness and the assumption of the regular trades.

It has been suggested that some kind of copyright or protection might be secured for the products of handicapped labor. I doubt if such protection would be wise. There might very well be a copyrighted trademark which would help to identify the products. Such a trademark would be legitimate and probably helpful, but the products of handicapped labor must be so specialized and so perfected that they stand on their own feet in the open market; otherwise we may as well give up the idea of such remunerative occupations.

That such a desirable end may be brought about sometime, is, I think, made clear by the partial success of a few experimental workshops, which would have been more effective by a little better backing and by a more businesslike management.

[1]Hall, Herbert J., and Buck, Mertice M. C.: "The Work of Our Hands," Moffat, Yard & Co., New York, 1915.

[2]At Marblehead the shop is also the salesroom. The place is well known, and people come from considerable distances to buy the products. There is no reason why the handiwork of outside craftsmen could not be sold through such an agency.

[3]The fabrics woven at the Light House, an industrial school for the blind in New York city, are now of such high quality that they are sold through the firm of Lord & Taylor.

The Beneficial Results of Prenatal Work

The Instructive District Nursing Association of Boston now cares for over 2,000 prenatal cases annually. This amounts to one-tenth of all the births in Boston. The aims are: (1) by making proper medical examination, pelvic measurements, etc., of pregnant women before confinement (when possible, some months before), to decide whether normal delivery is possible or likely, and to give such medical advice as may be indicated for the comfort and safety of the mothers, and in particular when hospital care and operation are necessary; (2) by visits from a trained visiting nurse and reports to the physician, during the course of pregnancy, to instruct the mother and father in the hygiene of pregnancy, and to make the best possible preparation of the home for the sake of the coming child; (3) by expert medical care at confinement, to minimize the risk of delivery to mother and child, and (4) by frequent visits from the nurse during the two weeks or so following confinement, to provide needed bedside care to the mother and give the baby the best start possible. The results show a reduction of the infantile death rates for 1914 and 1915 to one-half or one-third those for the same period among babies in the same wards who had not received prenatal care, and a proportion of still-births only half that among the general population. As only a small proportion of the infants received any other organized nursing or medical care, Michael M. Davis, who describes the work of the association in a recent number of the *Boston Medical and Surgical Journal*, thinks it fair to attribute the reduction in death rate to the prenatal work.

Conciseness and decision are, above all things, necessary with the sick. Let your thought expressed to them be concisely and decidedly expressed. What doubt and hesitation there may be in your own mind must never be communicated to theirs, not even (I would rather say especially not) in little things. Let your doubt be to yourself, your decision to them. People who think outside their heads, the whole process of whose thought appears, like Homer's, in the act of secretion, who tell everything that led them towards this conclusion and away from that, ought never to be with the sick.—Florence Nightingale, "Notes on Nursing."

OCCUPATION AND DIVERSION FOR TUBERCULOUS PATIENTS

Therapeutic Value of Medically Supervised Occupation—Patient Better Fitted for Discharge if Capacity for Work Has Been Tested—Diversion for Bed Patients

By ARTHUR T. LAIRD, M. D., Superintendent, Nopeming Sanatorium, Nopeming, Minn.

AN editorial in THE MODERN HOSPITAL, November, 1914, called attention to a need in tuberculosis hospitals for "entertainment, diversion, and occupation" which was not being met in some institutions. In others considerable attention had been given to the matter, but few superintendents realized at the time the necessity for emphasizing this phase of the work.

In practically all county and municipal institutions there are two principal classes of patients to be considered, those with active symptoms, confined to bed, and those with arrested or quiescent disease, who are able to walk about and are allowed considerable exercise. The provision of suitable occupation for both classes is of the utmost importance from the therapeutic point of view, and in the case of the latter is of some economic importance. At Nopeming about one-half of the present enrollment, 155, consists of bed patients, and this is practically a constant proportion.

While our industrial department is not yet as well organized as we hope it will be, we have made a beginning and our experience may be of some help to others. The question of occupation for ambulant patients will be considered first.

OCCUPATION FOR AMBULANT PATIENTS WITH QUIESCENT DISEASE

The value of graduated exercise under careful supervision in the treatment of tuberculosis was demonstrated to the medical profession some years ago by Marcus Paterson at Frimley, England.[1] In many of his cases, practically normal health and restored earning capacity were secured. More recently Herbert J. Hall and M. M. C. Buck, in their book, "The Work of Our Hands, A Study of Occupations for Invalids,"[2] have treated the whole subject of work for invalids in a most interesting and suggestive way, besides discussing specifically the industrial problem of the tuberculous. The results achieved by the allies and the central powers in devising occupations for handicapped soldiers have also emphasized the folly of neglecting such economic assets both from the patients' point of view and from that of the country.

While at Saranac Lake, I was much impressed with the success obtained by Mrs. C. R. Armstrong, at that time superintendent of the Adirondack Cottage Sanatorium, Trudeau, N. Y., in providing employment under healthful conditions for patients discharged from that institution and from other sanatoriums. Special outdoor sleeping quarters were built for these employees, and medical attention was secured for them when needed. A large proportion of the domestic workers had had tuberculosis, while a considerable number of the medical and nursing employees were also ex-patients. The latter did their work under the immediate supervision of Dr. Lawrason Brown.

The plan for employing tuberculous persons at Nopeming is, however, somewhat different from the one used at Trudeau or other institutions having a certain number of persons with arrested tuberculosis on the payroll. At Nopeming, all tuberculous employees are classed as patients, live in the patients' quarters, eat at patients' tables, and are under the same rules and regulations as other patients. This arrangement relieves us of the necessity of providing special quarters and regulations for tuberculous help and insures closer supervision. Most of the ambulant patients occupy tents and cottage shacks and do not, therefore, take space needed for bed patients.

The following gradations of exercise are employed:

1. Complete rest in bed on back (complete immobilization).
1A. Permitted to turn on side.
2. Permitted to move about in bed.
2A. Permitted to go to bath-room in wheel chair.
3. Permitted to walk to bath-room.
3A. Permitted to go to the small dining-room.
4. Permitted to go to main dining-room.
4A. Permitted to go to main dining-room and sitting-room.
5. Fifteen minutes' exercise in addition to above.
5A. Thirty minutes' exercise in addition to above.
6. Forty-five minutes' exercise in addition to above.
6A. One hour's exercise in addition to above.
7. One and one-half hours' exercise in addition to above.
7A. Two hours' exercise in addition to above.
8. Three hours' exercise in addition to above.
8A. Four hours' exercise in addition to above.
9. Five hours' exercise in addition to above.
9A. Six hours' exercise in addition to above.
10. Seven hours' exercise in addition to above.
10A. Eight hours' exercise in addition to above.

Patients who have had fever or rapid pulse are not advanced oftener than once a week or more than one grade at a time. Usually the advancement should be very much slower. The same rule

[1] Trans. Internat. Cong. on Tuberc., 1908.
[2] Published by Moffat, Yard & Co.

is observed in assignment of exercise after hemorrhage or relapses.

Exercise is increased only after "consultation" and is noted on chart. Whenever exercise is increased the patient is given a signed card showing the grade and number of hours. Heads of departments must examine the exercise card before allowing patients to work.

Patients with Exercise 6 may walk one mile a day, or as far as to the station. Patients with Exercise 10A should not walk more than three

Fig. 1. Articles of woodwork made by patients at Nopeming Sanatorium.

miles a day except by special permission. Hill-climbing should be avoided as far as possible.

Since the opening of the sanatorium in May, 1912, the following positions have been held by about seventy-five different patients who have eventually reached the higher grades of exercise. Nearly all have been on the payroll. Four hours' work a day is counted as an equivalent for board, and for time in excess of that the patient is paid twenty cents an hour.

Physicians	2	Drivers	2
Clerks	4	Janitors	11
Laboratory men	3	Tray boys	12
Orderlies	4	Postmasters	3
Chauffeur	1	Bookkeepers	2
Seamstresses	2	Typewriters	4
Nursemaids	2	Librarians	3
Nurses	4	Shop foremen	4
Printer	1	Inspectors	2
Teachers	2	Storekeeper	1
Barbers	2	Shop workers	3

Many other patients have worked less than four hours a day at the same occupations in the workshops, flower gardens, or elsewhere. The total enrollment to date, including bed patients, has been 610.

The fact that any patient may, if he is assigned sufficient exercise, become at least temporarily a paid employee of the institution gives him a definite goal to be reached at the sanatorium before he undertakes work outside. If we already know that a man is able to work six hours or more a day at Nopeming without injury to himself, we feel much safer in permitting him to go home than if his capacities were entirely an unknown quantity. It is easier also to persuade a man to prolong his stay at the sanatorium if we are able to show him that his attempts to reach the higher grades of exercise have as yet been unsuccessful than if he simply knew that he felt well. There is no time limit set for the attaining of this goal. The increase in exercise may be slow or more rapid in accordance with the patient's reaction to the treatment. It is not unusual for patients to be several months in reaching No. 4. As in other places, a patient may be able to keep well at the sanatorium but be unable to succeed in working under city conditions. If our "graduate" does not succeed when he tries work elsewhere, he is readmitted as soon as we can find room for him. No limit is placed on the time a patient may hold his position or on the number of his readmissions.

Besides doing the work involved in the positions enumerated, the patients make all ordinary repairs to furniture and equipment. Painting and varnishing of furniture, floors, and walls is also done by them.

In addition, a variety of articles have been manufactured by them under the direction of

Fig. 2. Baskets and trays made by Nopeming patients. The oval trays are very easy to make. Several dozen have been made.

more or less skilled foremen and persons experienced in handicraft. The instruction thus far has been given by members of the regular staff having other duties, but we hope in the future to place specially trained people in charge of this work.

The following is a partial list of articles that have been made by convalescent patients or those with arrested disease:

Carpentry: Lawn benches, children's high chairs, music cabinet, bookcases, index board, lockers, lamp stands, screens, bird houses, sleds, bootblack stand, magazine rack, window shades, tables, picture frames.

Basketry: Serving trays, serving baskets, broom holders, vase holders, mats, raffia baskets.

Embroidery: Various crocheted and knit articles.

Weaving: Linen cloth for curtains.

Pottery: Vases, candlesticks, book holders.

Clothing and Bedding: Pajamas, nightgowns, capes, hoods, bed socks, knit caps, sheets, pillow cases, mattresses, rugs, and cushions.

Pictures: Posters for health exhibits, small passe-partout pictures for patients' bureaus, framed pictures.

Miscellaneous: Paper bags, bonbon boxes (from tin cans), paper beads.

Printing: All the printing of the institution and the *Nopeming Breeze.*

Gardening: Sufficient flowers are raised to keep bouquets at every bedside during the summer.

Once a year an exhibition of handicraft is held at which prizes are given. Ex-patients are specially invited, and other friends attend. Following the exhibition at the sanatorium the best-made articles are displayed in a store window in Duluth. Many of the bed patients contribute embroidery or posters and similar articles which can be made without much expenditure of energy.

Fig. 3. The printing plant at Nopeming. Here all the printing of the institution is done.

Only patients with quiescent or arrested disease are permitted the higher grades of exercise, and these are carefully watched for the appearance of signs of active trouble.

Articles made for use in the sanatorium are now placed in a separate store room, from which they are obtained by special requisition. The labor and material used are noted and a value assigned to each object. The cost of each job of repairing or renewal is also calculated. This part of the work has only recently been systematized. One of the patients has charge of the clerical work. The enterprise is not yet sufficiently developed for us to be able to state definitely the cost of operating the industrial department. The usual salary paid for full-time work is $20 a month, which is somewhat less than would be paid to non-tuberculous workers. The patient, however, has medical supervision, sleeps out of doors, and has the privilege of keeping rest hour.

The expense of painting and ordinary repairs is less than it would be if a regular painter or carpenter were employed. Very often the patients are especially skilled men. On some manufacturing articles there is decided saving. Our paper bags are now made from old magazines and newspapers stitched on a sewing machine run by a motor, and do not cost more than $2 a thousand for 20-pound bags.

We hope some time to be able to provide steady employment for any and all tuberculous individuals in the county who are able and willing to work under healthful conditions and under med-

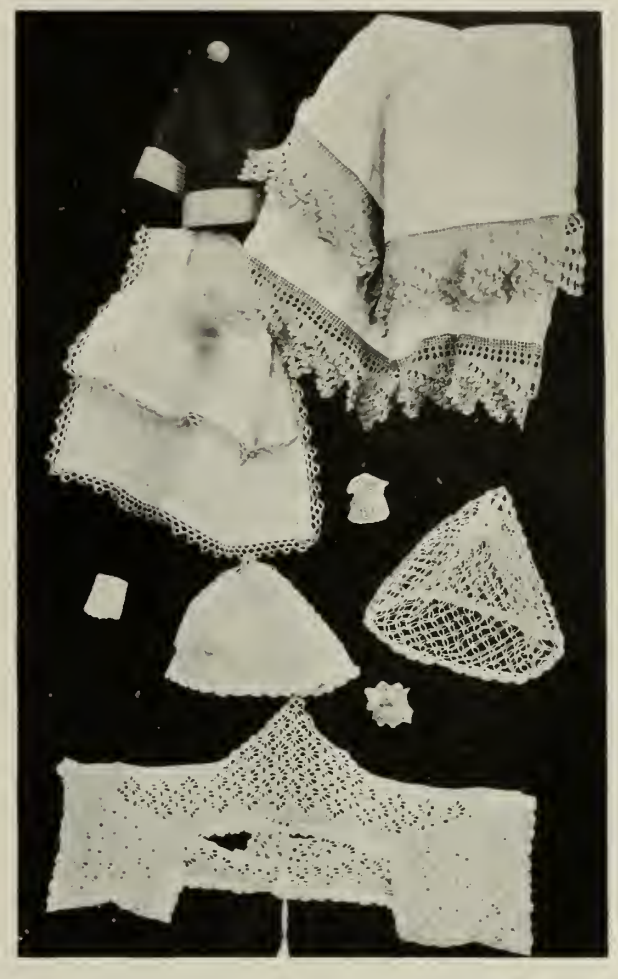

Fig. 4. Articles of fancywork made by Nopeming patients. The cloth in the table covers was woven at the sanatorium.

ical supervision. For this purpose we shall need a large, well-lighted, and well-ventilated workshop or factory, surrounded by inexpensive cottages, where "graduates" of the institution and others can live with their families. The knowledge that many "cured" persons were at work in the neighborhood would be a source of the greatest encouragement to the bed patients and would tend to make them contented to stay in the institution.

The tuberculosis industrial colony, if developed along the lines of the "home hospital" in New York City, may eventually go a long way toward

securing the voluntary segregation of large numbers of open cases of tuberculosis at comparatively little expense to the community. If the patient himself is too ill to be employed, the family problem may be in a measure solved by giving employment to some well member of the family in the same shop. At Nopeming six husbands, three wives, three brothers, six sisters, three fathers, three mothers of patients have been em-

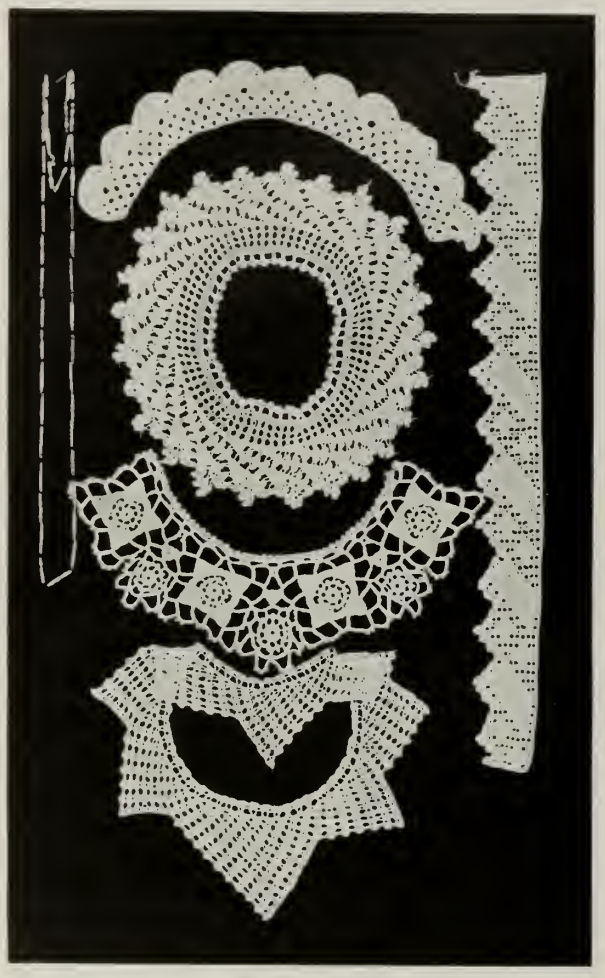

Fig. 5. Lace made by Nopeming patients. At the left is a set of the paper beads described in THE MODERN HOSPITAL, June, 1916.

ployed in various capacities. Families rather than individuals are the units to be considered.

OPPORTUNITIES FOR INSTRUCTION

Besides the children's open-air school in the children's cottage, evening classes are held for certain older patients, especially foreigners. Some of the patients with well-arrested disease have taken up correspondence courses with the idea of following a less laborious occupation than that formerly pursued.

Musical and literary entertainments, given by the patients themselves or by amateurs and professionals from town, moving pictures, games, and parties are all part of the regular program and help in the general culture of those who in some cases spend three or more of the best years of their lives with us.

The cultivation of an outdoor hobby, such as the raising of flowers or vegetables, the study of birds, trees, ferns, flowers, or the stars, is encouraged. Photography has had several devotees. Provision is also made for regular religious services.

DIVERSION AND ENTERTAINMENT FOR BED PATIENTS

Up to this point we have been discussing the problem of the ambulant patient with arrested or quiescent disease. Equally important from a therapeutic point of view is the securing of suitable diversion and entertainment for the bed patient. The proper mental attitude is an important factor in successful treatment, and psycho-

Fig. 6. A picnic on the lawn.

therapy is not without a place in the resources of the tuberculosis specialist.

Inasmuch as our institution is directed by law to give preference to advanced cases, the depressing features of their presence in the institution must be eliminated so far as possible.

This is accomplished in part by the use of many small wards, private rooms, and small porches, which permit the grouping together of congenial persons and the separation of the very ill from the more hopeful cases. There are small dining-rooms near the bed patients' rooms, and porches where they can take their meals in negligee after they are allowed a little exercise but before they are permitted to go to the main dining-room. This change from the solitary meal served on a tray is a very welcome one to most people. In connection with two of these dining-rooms are open fireplaces and easy chairs. Here a patient may sit while his bed is being made or his roommate is having visitors. Occasionally a little concert or entertainment is given in this room, or moving pictures are shown; a portable machine is used. On such occasions, beds are rolled into the adjoining wide corridors, so that even those with no exercise may share the fun.

Now that the Annex and Tower buildings are completed, it is possible to take a patient, either in bed or in a wheel chair, from the main building across the arcade roof, through the Trudeau infirmary, out on the Annex roof garden, through the sun-treatment parlor to the observation station on the Tower, a distance in all about five hundred feet. Here the day-time view in almost every direction is unobstructed and alluring, and at night one may look up at the stars above, or below, in the west, may see the bright, sparkling lights of the city of Cloquet. These same roof promenades and porches afford many opportunities for securing change of scene and diversion for bed patients. On the spacious clearing in front of the main building[1] are croquet grounds for patients and a tennis court for the use of employees. The contests are interesting to watch. Old baseball "fans" among the bed patients are delighted when the janitors and orderlies knock up flies or play "three o'cat." No roads cross this clearing, which is reserved for entertainment. Adjoining it are the playgrounds of the children's cottage, and the bed patients may watch their play in summer and their skiing and coasting in winter. On special occasions, picnic dinners and suppers are served to patients on these grounds and are a source of enjoyment not only to those participating but to the watchers on the porches, especially when there is music by a Duluth band or orchestra. The electrically illuminated outdoor Christmas tree, kept lighted each night for a week, has been the occasion of appreciative comment by many bed patients.

In the center of the foreground is the tall white pole presented by the Red, White and Blue Society, from which a handsome flag waves on all gala days. An Italian patient is the proud custodian. Drills are executed by the children on suitable occasions, such as Memorial Day or the Fourth of July.

On all holidays and whenever special entertainments are given in the main sitting-room, as many of the bed patients as can safely be permitted the exertion are sent in wheel chairs down the elevator to the party or show. They do not have to walk a step, and are watched in order that they may not become overtired. In the meantime they store up happy memories and subjects for pleasant thought and conversation.

Various other expedients to ward off homesickness are employed. A family spirit is cultivated and there are absolutely no class distinctions. No one outside of the office knows who are free and who are pay patients.

Reading is of course a great diversion, and current magazines and papers are regularly distributed by the librarian to all bed patients who can enjoy them. Books from the library are sent to the rooms, and literature in various languages is provided. Puzzles and small framed pictures for the bureaus are distributed in the same way as books. The library now contains about seven hundred volumes, besides over two hundred records for the portable victrolas, which are also loaned under certain restrictions.

Sewing and fancywork are allowed many of the women patients. For men simple diversions are more difficult to find. Solving of puzzles, whittling, making letters out of bright-colored paper, the practice of telegraphy, especially by old railroad men, are a few of the expedients tried. The suggestions made in Miss Tracy's book, "Studies on Invalid Occupation,"[1] have helped some patients. Many sets of paper beads[2] have been made in the sanatorium. For those to whom none of these occupations appeal, there is still left conversation with a congenial porchmate, the most satisfactory of all recreations, and, for those not socially inclined or needing the rest, there is daydreaming in the warm sunshine, the good taste of the crisp, pure air, and the refreshment that comes from a little extra sleep, which, curiously enough, seldom interferes with the night's rest.

Every morning at eleven o'clock the train brings numerous visitors from town, who remain until twelve-thirty. From one-thirty to three, "rest hour" is observed and no visitors are permitted (even to ambulant patients regularly employed). The nearness to the home folks and their frequent cheering visits make many contented to remain who would otherwise always be longing for the home faces.

As there is a children's cottage and an infant department, it is not an uncommon occurrence that two or three members of an infected family are living at the institution at the same time. Occasionally, if the well parent is employed, the family is not divided. Besides the home friends, clergymen visit patients who need or request their services.

The provision of entertainment and diversion should of course not be carried to the point at which the patient is fatigued, and for many acutely or severely ill patients all that should be done is to furnish them sympathetic medical care and nursing. Every opportunity for encouragement and helpfulness should be utilized. Rest and a calm spirit are often the medicines needed to the exclusion of more active measures. Entertainment, instruction, and diversion, while most

[1]See illustration in THE MODERN HOSPITAL, March, 1917.

[1]Published by Whitcomb & Barrows, Boston.
[2]Described in the June, 1916, number of THE MODERN HOSPITAL, p. 453.

necessary, must be under careful supervision and efficient control. The value of rest in treatment is too well proved to be ignored, and exercise should be most carefully administered.

The transfer from one grade of exercise to another should be made only after a careful study of the patient's condition. In some cases it will be two years or more before the higher grades are reached, and some patients must be content to remain in the lower grades.

The dangers of too early assignment of work and too rapid increase in the amount done as well as the beneficial effects of prolonged rest have been repeatedly pointed out by Dr. Joseph H. Pratt,[1] and any superintendent planning industrial work should read very thoughtfully Dr. Pratt's articles on rest in tuberculosis.

I have enumerated a few of the occupations and diversions provided in one Minnesota county sanatorium. Most of them are neither new nor original, and much of the same sort of work is done elsewhere. A definite effort has, however, been made to provide employment under supervision for the discharged sanatorium patient and others with arrested disease.

[1]Jour. Outdoor Life, September, 1912; March, 1917.

THE BENEFICIAL EFFECTS OF WORK THERAPY FOR THE INSANE

Some Common Mistakes in Applying Occupational Therapy—Work Chosen Must Be Adapted to the Individual—Work Must Be Directed by Trained Teachers—Patient Must Not Be Allowed to Become a Drudge

By FRED P. CLARK, M. D., Medical Superintendent State Hospital, Stockton, Cal.

THE therapy of work, if properly classified and carried out, is one of the most important factors we have at our command in aiding those mentally affected to regain their normal condition.

The most common mistake made by those who have not given special study to this form of treatment is that of assigning the patient to some occupation for which he or she is entirely unsuited. Consequently we find the patient not benefited by mental and physical employment, but uninterested in his work and dissatisfied, often becoming irritable on account of an occupation that is unpleasant to him or because of his inability to perform the work to his own satisfaction. When this condition is present his mental state is retarded instead of being benefited.

Again, the mistake is made of trying to carry on this work with nurses who have had no special training in work therapy and who are occupied with their regular daily duties while endeavoring to teach basket-weaving, embroidery, etc., to those engaged in this occupation. This method of applying occupational therapy is wrong. The work must be under the direction of teachers who have been trained along the proper lines and whose time and minds are in no other way occupied, so that they can give their undivided attention to their duties. The teachers should be intelligent, observant and tactful in order that they may command the respect of their pupils and be able to observe when the patients begin to tire of any special line of work.

Before the patient is assigned to one of the departments of work therapy, his or her history should be carefully reviewed. It should be determined whether overwork, with its attending lack of diversion and amusement, or underwork, with its round of pleasures and dissipation, has been a factor in the causation of the mental breakdown. The importance of this should be borne in mind if we expect to carry out the work successfully.

For example, in looking over the history of a woman patient whose condition has improved to the extent that it is thought advisable to occupy her time with some form of employment, we find that she is the mother of several small children and that her husband's financial condition is such that she has been compelled to work from early morn until late at night without relaxation or any form of amusement. We would not expect her mental and physical condition to be improved by placing her in the laundry or sewing room, where she would be required to perform the same line of work that perhaps had been responsible to some degree in bringing about her mental breakdown. Such a patient requires amusement and pleasant occupation to divert her; she should be assigned to the first class in work therapy, as it is designated at this hospital.

In this class, which is under the direction of a teacher especially trained for this work, the patients are taken each morning for a walk of three quarters of an hour about the hospital grounds. After the walk they go to the gymnasium, where they don their uniforms, which in itself is quite an event to some. The morning work consists of marches, drills, dumb-bell exercises, singing popular songs, and instruction in folk and modern dances. The afternoon hours are occupied in learning some form of fancywork with which the

patient has hitherto been unfamiliar, such as basket-weaving, embroidery, rug-making, and, in fact, taking up any line of work of this nature which is new or interesting to them. This form of mental occupation opens up an entirely new field of thought and diversion to the unfortunate woman whose life has been spent in worry and drudgery, and encourages her with the thought of a more pleasant and cheerful life on her return to her home, due to the fact that she will be able to occupy her mind and time in a manner hitherto unknown to her.

Should the patient be one who has led a life of pleasure, exactly the opposite form of occupation should be employed. This patient's time should be differently occupied. The morning hours at least should be spent in the open, where each one can have his own flower or vegetable garden. Here it would be necessary for the patients to indulge in considerable muscular exertion in order that they may successfully compete with others similarly engaged. Their afternoon hours should be occupied with pottery-making, basket-weaving, rug-making, or in fact any form of occupation which would open to them an entirely different line of life from that with which they had formerly been familiar.

When the patient becomes proficient in a certain line of work and it is noticed that this work is done without special thought or interest, some new form of occupation, which of course must be agreeable to the patient, is assigned, in order that the work shall not be done automatically but shall require some thought in its performance, for it is the all-important factor that the patient must exercise some mental effort while engaged in his or her work.

Our pottery and arts and crafts department occupies a very important place in our work therapy, not alone from the benefits derived by the patients while occupied in this very pleasant and interesting line of work, but it also provides them with a means of livelihood or diversional occupation when they leave the hospital and return to their former surroundings.

Work therapy as conducted in hospitals where special attention is directed to it and the work carried out by teachers who are properly trained, not only is a very important factor in assisting the patients to regain their normal mental condition, but also acts as a preventive measure after the patients leave the hospital, since they now have some form of amusement or occupation with which they can divert their minds and amuse themselves when worn out or worried by home environments.

While speaking of the benefits of work therapy for our more recently admitted patients, one should not forget the old or chronic cases on whom the routine work of the hospital falls as helpers in the laundry, ironing and sewing rooms, wards, and kitchens. Because a man or woman is valuable help in any of these departments, he or she must not be allowed to remain there and become a hospital drudge. The work should be made as varied and interesting as possible. This can be accomplished by transferring the patients from time to time to different departments where the work is less arduous and the new surroundings and companions create for them new interests.

The French Visiting Nurses and the Sanatorium Apartments

In France the mortality from tuberculosis has remained stationary for many years, while it has greatly decreased in England and other countries of northern Europe by reason of an active antituberculosis campaign. One of the chief causes of the frequency of tuberculosis in France is alcoholism, which destroys the resisting power of the body with regard to the tuberculosis bacillus. Another cause is the insanitary and crowded condition of the dwellings of the poorer classes, especially in Paris. To combat these conditions the Association of Visiting Nurses was organized in the early part of 1914, under the presidency of the Marquise de Ganay. This organization, assisted by the government, has done good work since. Since the nurses in this work must be true "missionaries of hygiene," special courses for the education of the visiting nurses were established, that they may be able to enlighten the people on the causes, prevention and treatment of tuberculosis. So far eleven groups of visiting nurses have been established in the various districts of Paris. Through the assistance of the government the association has also been able to establish sanatorium apartments (*logements-sanatoria*) in the various districts. Here a small sanitary flat of three or four rooms is rented to a family with a tuberculous patient at the low price of 28 francs ($5.60) per month. An isolated room for the tuberculous patient prevents further infection, yet permits him to remain with his family. Dr. G. Vitour describes the work of the association in a recent number of the *Paris Revue d'hygiene.*

The Sanatorium Treatment of Industrial Patients

The results of treatment at any tuberculosis sanatorium depend entirely on the class of cases sent there, writes Dr. S. Stewart in a recent number of the London *Practitioner.* If the cases admitted are in the early stages, the result will be good, otherwise poor. At the Ochil Hills Sanatorium, which receives only industrial patients, 566 male patients were treated during the past year. Of these 40 percent were improved or greatly improved. In 18 percent of the cases the disease was arrested. In the remainder no improvement took place. Four patients died. The reason for these rather poor results will be found in the fact that most of the patients had passed the initial stage when they were admitted. Early treatment is of prime importance if good results are to be obtained. Advanced cases should be treated in separate institutions.

THE POTTERIES OF AREQUIPA SANATORIUM

An Experiment in the Reeducation of Tuberculous Girls—The Therapeutic, Economic, and Psychologic Factors in the Problem—Latent Talents Discovered in Many Patients—Number Who Have Made Good

By PHILIP KING BROWN, M. D., Medical Director, Arequipa Sanatorium, Manor, Cal.

THE problem of remunerative permanent occupation for the handicapped lies as yet in the realm of things unsolved, and it is in the hope of making some contribution to this baffling question that Arequipa Sanatorium herewith puts on record the statistics gathered from five and one-half years of experimentation and effort. If these statistics do nothing more than analyze out the various factors of the problem and sharply define the limitation of our efforts, they will not have been in vain. For most of the failures of schemes for reeducating patients in a new vocation may be traced to the failure to recognize and rightly evaluate these three factors: (1) the therapeutic, (2) the economic, (3) the psychologic. Of what avail to demonstrate the value of work therapy and to struggle for the production of a marketable article, if we are straightway discouraged when the patient abandons the job that is good for her to go back to the one that she likes? These human perversities and vagaries which block the schemes of doctors and social workers are not at all the symptoms of disease, not even of sanatoriumism, but the symptoms of human nature everywhere. The experience of Arequipa is illuminating. Let us consider one by one the three factors aforementioned:

Fig. 1. A mountain sanatorium where work therapy for the tuberculous is employed. Arequipa Sanatorium, Manor, Cal.

ON THE THERAPEUTIC SIDE

The Arequipa Sanatorium for Tuberculous Wage-Earning Girls has found in the making of pottery an occupation which is not only fascinating, but also safe and suitable. It can be done in the open air or in a screened enclosure. It can be done in wet clay to eliminate dust, and the product can be easily sterilized. Many patients have begun to improve only after the work was begun, and in no instance has a patient been forced to give up work because of ill effects. Moreover, it is noticeable that a wholesome atmosphere of happiness and hope pervades the whole sanatorium on those days when the girls are at work.

As originally planned, it was not intended to do more than this—provide an interesting occupation during the tedious convalescence from a depressing disease and possibly enough profit to contribute to the support of the patient in that period. But the unexpected development of latent talent, as well as the impossibility in many cases of returning to the old employment, led to a consideration of possible connection with the working world and possible permanent remunerative occupation in the future.

THE ECONOMIC SIDE

We must admit that only a few patients have paid for their own support, but these instances are notable and encouraging. What they have done others could do. They were among the sickest girls in the house. They had never had this type of training before, and they were drawn from every rank and walk of life, from the ignorant and unlettered as well as from the professional class. At one time there were as many as

four on the list who entirely supported themselves. One had been a laundress, another a nursemaid, the third was a governess, and the fourth a waitress. As high as $1.15 for a few hours' work has been earned within three weeks of beginning work, and $11.44 has been paid for twenty-five hours of work. It should be remembered that the Arequipa working day is a five-hour day, and the Arequipa working week is a five-day week. No one works on Saturday or Sunday.

Out of the sixty-six patients who have worked in the pottery at various times throughout the past five years, twenty-four have made good. This discovery and development of latent resources is the most that we have achieved—it is perhaps all that can be achieved. But we are not satisfied. We must enlarge the field for these resources, and create a special working world for these handicapped girls. The field is not big enough in California, nor would the conditions in the economic world be adapted to their needs. For this reason it is our purpose to enlarge the pottery, manufacture tiles on a commercial basis, and strive for a higher and more distinctive type in the ornamental pieces to give outlet for art expression. We are planning to replace all male expert help by trained girls, so that more and more of the pottery shall be the product of their labor. One ex-patient is managing the pottery, and another who had shown unusual ability and industry is being educated in a New York art school by a wealthy patron of youthful talent to fit her for a higher position in the pottery. The first had been a saleswoman and department head; the second, a girl of 17 without educational advantages, had been a dressmaker's assistant at $10 a week. Both were girls of forceful character and ambition and capacity for hard work.

Fig. 2. An outdoor studio at Arequipa.

THE PSYCHOLOGICAL SIDE

It was the noticeable presence of these qualities in the girls who tried the pottery work and stuck to it which led us to make the statistical studies which we have tabulated. This is our contribution to the psychological side of the problem. Of the twenty-four girls who made good in the pottery, twenty had made good before coming to the sanatorium. They were independent and self-supporting, and had saved enough money to pay for their sanatorium care. Four were teachers, two trained nurses, three saleswomen, two seamstresses, two stenographers, two maids, one waitress, one laundress, one foreign missionary, and two cashiers. Thirty-one patients who were dependent on charity either refused to work at all, or worked under protest, though advised to do so by doctors, social workers, and friends. Ten of these were trouble-makers at the sanatorium and were discovered to have records as delinquents. Only five had made good in any line previously. And the same findings could be recorded from our efforts to form classes in typing, French, Spanish, and botany.

From all of which we may find ample illustration of this theory of the psychological determinists: "How many things and how hard things a person will do lies in his original nature; the kind of work may change, but there is no new potential."

To those doctors who have been discouraged by the failure of reeducating schemes and have attributed it to the demoralizing effects of disease and of sanatorium life, this is an important finding. It is not pathology, it is psychology. Tuberculosis does not alter character values. New powers can be developed where power has been developed before, but "something from nothing you can't."

Fig. 3. Some of the products of Arequipa potteries.

WORK DONE IN POTTERY BY PATIENTS UP TO MARCH 17, 1917.

Name	Total earned	Number of weeks	Average wage per week
A. M.	$ 15.70	4	$ 3.92
A. M. M.	23.10	8	2.90
B. A.	32.60	15	2.15
B. A.	5.15	5	1.03
B. H.	31.57	9	2.50
B. J.	17.95	9	2.00
B. C.	4.15	5	0.83
B. H. M.*†	24.95	16	1.56
C. L.†	1.02	5	5.10
C. G.	49.65	31	1.60
C.*	342.80	40	8.57
C.	35.81	11	3.35
C. B.*†	76.70	24	3.20
C. A.	57.45	26	2.20
D. M.*	90.72	28	3.24
D. L.	15.60	7	2.22
D. G.	37.15	16	2.32
E. P. M.*†	58.00	18	3.22
F. H. D.	6.86	3	2.29
F. M.	42.00	13	3.23
G. E.*†	183.13	16	11.44
G. M.*	129.24	18	7.17
G. M.	9.15	3	3.05
G. M.	4.05	2	2.00
H.	5.24	2	2.62
H.	65.21	28	2.32
H. K.	35.45	16	2.21
H. L. S.*†	80.90	25	3.24
H.	15.85	7	2.26
H. H.	6.90	13	.51
J. J.*†	88.45	31	2.85
J.	9.38	3	3.13
K.	8.74	4	2.18
K.*	84.55	21	4.03
M.	4.26	3	1.42
McC. E.*†	99.55	30	3.31
M. H.	6.20	2	3.10
Mc. M.	19.57	7	2.78
M. S.	36.29	19	1.91
M. L.*†	191.89	46	4.17
Mac. D. L.	13.65	4	3.40
McW. M.	6.75	4	1.68
N. N.*†	107.30	40	2.68
N.	27.55	8	3.44
P. A.*†	227.27	53	4.28
P.*†	Refused compensation		

*Indicates those who made good in pottery.
†Indicates those who had made good in other lines.

Name	Total earned	Number of weeks	Average wage per week
P. R.	$81.85	24	$3.38
R. B.	12.80	7	1.82
R. G.*†	28.20	11	2.56
R. V.*†	46.93	18	2.60
S. M.	4.25	4	1.06
S. A.	40.95	14	2.92
S.*†	93.71	26	3.60
S.*†	309.34	79	3.78
S. E.*†	258.83	32	8.08
S. G.	36.30	14	2.59
S.	4.95	2	2.47
S. I.	1.65	2	.82
S. P.	31.05	11	2.82
U. E.*	58.80	21	2.80
W. F. M.*†	242.43	46	5.27
W. M.	18.80	7	2.68
W. N.*†	74.25	23	3.25
Y. S. H.	8.90	6	1.48
Z. B.*†	113.14	21	5.39

SUMMARY

1. Total number of patients in Sanatorium November, 1911, to March, 1917 361
2. Number of patients in pottery up to March, 1917.. 66
3. Number of patients in pottery who made good.... 24
4. Number of patients in pottery who had made good in other lines before illness..... 24
5. Number of patients in Group 3 who had made good in other lines before illness..... 20
6. Number of patients (dependent on charity) unwilling to work or working under protest though advised to work by doctors, family, or social workers 31
7. Number of patients in Group 6 with records as delinquents or trouble-makers..... 10
8. Number of patients in Group 6 who had made good previously 5

The Wise Nut

One morning Dr. H. J. Gahagan, superintendent of the Elgin State Hospital, found on his desk this note: "Knock and it shall be opened unto you. Seek and ye shall find. A good squirrel should take better care of nuts. This nut is gone."

The note bore the signature of a well-known patient who had left unceremoniously in the night and has not been heard from since.—Institution Quarterly.

The power to forget is one of the most valuable and helpful gifts which a man possesses.—S. Weir Mitchell.

OCCUPATION AND ITS RELATION TO MENTAL HYGIENE

The Illinois Society for Mental Hygiene Finds Endless Possibilities in Occupations for the Handicapped—Work an Important Element in Restoration of Patients to Normal Condition

By ELNORA E. THOMSON, Superintendent Illinois Society for Mental Hygiene, Chicago

THE Illinois Society for Mental Hygiene began work in 1909. In the incorporation papers which were filed in the spring of 1910 we give as our objects:

"To cooperate with the public and private agencies in improving the condition of the insane; to aid in the after-care of patients discharged from the hospitals for the insane; to secure data regarding social conditions provocative of mental breakdown; to publish and circulate information which may help in avoiding mental disease, and to carry on any other proper work tending to secure and conserve the mental health of men, women, and children, and to enlist the interest and cooperation of others therein."

We who have been with the society from its beginning believe that its greatest effort should be directed toward the prevention of mental breakdown, and, in an effort to help individuals, while studying conditions, we have given special attention to social service. In doing this we very soon became impressed with the fact that many of the individuals referred to us by the different agencies, by physicians, or coming to us of their own accord, needed occupation, a fact that was emphasized by reports from physicians, neurologists, and alienists who, after examination, would send patients back to us with statements like the following:

"This patient is not a subject for commitment nor is institutional care of any kind indicated. Patient would doubtless be greatly benefited by congenial employment in a good environment."

During all the first years of the work such employment was sought for in regular industries, and a few patients were satisfactorily placed, but for the majority no place could be found; yet these people seemed to have capacity for work—and it was apparent that work was needed, from both a therapeutic and an economic standpoint, and must be furnished if we were to be of any real help.

In our effort to meet this need we concluded to attempt to secure funds to establish an occupational department. Such experiences as the following had proved to our satisfaction that such a department could be made practical:

One day in the early spring of 1913 there came a request over the telephone from another agency asking that a nurse be sent to call on an old woman who was lodging in a cheap rooming house on the North Side and who was believed by those rooming near her to be insane. At any rate, she was a disturbing element, as she moaned and groaned all night so that these people were unable to sleep. A nurse was sent out and found a tall, well-built woman, appearing to be in her late sixties, deeply melancholy and all but hopeless. Her conversation indicated that she had received a fair education and there were evidences of refined tastes. This is the story she told:

Born on a farm in Ohio, she had married when quite young and shortly after her marriage came to Chicago with her husband. When their only son was about 18, her husband died, leaving a sufficient estate to carry them through until the son was old enough to support his mother and himself. The mother and son were unusually devoted and life went well with them until the son was about 35, when it was discovered that he had tuberculosis. He was ill two years, and when he died all their small savings had been used; only a few household effects remained. The mother, broken-hearted over her loss, attempted to find a means of livelihood. Unsuccessful in Chicago, she tried in another Illinois city where she had a distant relative. This relative could not help her, and because of her deep melancholy she was committed to a state hospital for the insane. After a few weeks there she was discharged, the physicians deciding after a careful examination that she was not insane. She returned to Chicago, still looking for employment, but still unsuccessful. She was without food or friends. Her story, told in logical fashion, proved to be true. The physician who saw her at the request of our nurse suggested a few weeks as a voluntary patient in one of our state hospitals where she could have care while some plan for occupation could be worked out. This she did, and after some weeks a place as mother's helper at a small wage was found; for several months things ran along quite smoothly and then there came a very natural break. The old woman, having always kept her own house, thought she knew how, and the young woman by whom she was employed wished things done her way. A similar position not being available, the old woman was installed in a comfortable room in a boarding home for working women. She was a good needlewoman, and patterns for children's quilts were given her. She made several which sold at a good figure. Then there came into our

possession, through the interest of a friend, an unusual design for a large quilt; materials were purchased and for three months the old lady stitched away. In December, 1914, the quilt was completed, a real work of art, and sold just before Christmas for $100.

If this old woman, now 70, could be made practically self-supporting, why not others who, because of mental or physical handicap, were partially or entirely dependent upon society? Two philanthropic women felt the force of our argument, and $5,000 a year for two years was promised that we might make a beginning. We believed that there were three needs to be met in such an experiment—frequently in the same individual—and occupations would have to be considered for their therapeutic, economic, and diversional character. Our first consideration, therefore, was a teacher who had both vision and training, and we were fortunate in securing the services of Mrs. Eleanor C. Slagle, who is not only interested in the problem, but also a skilled and experienced teacher. She came to us from Phipps Clinic, Johns Hopkins, Baltimore.

Work began in the spring of 1915 in an old house at 157 East Ohio Street, where all our activities were centered. Overcrowding made it necessary in the spring of 1916 to secure another house at 144 East Ohio Street, where the offices, display room, and carpentry department were moved. This now is outgrown, and while we are seeking more commodious quarters, Hull House has given us the use of their workshops for the summer. Many problems have been met; quarters have been inconvenient and funds inadequate, but after two years we can report that our department for occupations is no longer an experiment but a proved success, and present the following facts in support of the statement:

In the year beginning October 1, 1915, and ending October 1, 1916, seventy-seven individuals were given work in the department. At the end of this period twenty-four were holding wage-earning positions outside of the department; the highest wage received by any of these was $22 per week, the lowest $6. In the main these individuals were in positions for which their training in the department fitted them. In some instances, however, where the handicap had been mental, the individual returned to employment for which he had previously been trained, recovery being complete.

There were nineteen working in the department, four working at home under direction. Eleven had been committed and two went as voluntary patients to state hospitals; one was in a general hospital. Of the seventy-seven, only sixteen were not apparently helped in any way.

The sale of goods made by the patient workers amounted to $2,211.51, of which amount $1,356.95 was paid to the workers and $854.56 returned to the society for materials used, and there were on hand completed articles with a sale value of $1,008.57.

It has not been expected that the department would be self-supporting except in the matter of materials, as it is the plan to pass on the trained workers as far as possible to regular wage-earning jobs. The character of our product is of a high order. Its economic value is evidenced by the fact that in March of this year orders to the amount of almost $300 have come from a large business house in Chicago.

It is our belief, based on our experiment, that there are endless possibilities in occupations for the handicapped and in connection with our department we are establishing a course for those interested in directing such departments.

It is our hope in the next months to secure sufficient space so that we may still more diversify occupations. We now have needlework of many kinds, knitting, rug weaving, basketry, decorating wood and tin, ornamental cement work, the simpler forms of cabinet-making, doll furniture, and wooden toys.

It is contrary to modern ideas of economics to countenance waste. The establishment of schools and workshops for the handicapped, in hospitals and out, will make useful and happy many who otherwise would be a burden to their friends, the state, or themselves.

School Nurses in North Dakota

There are in North Dakota but eight nurses doing public health work, writes Miss M. A. Baker in a recent number of the *Journal-Lancet*. Two counties employ, instead of a deputy superintendent of schools, a nurse who includes in her work inspection of schools and children. Miss Baker says:

"One school board secured the services of an eye specialist to corroborate my findings of suspected eye contagion. I found seventeen; he found nine more and the doctor now holds a clinic twice a week and treats forty infected in that community. To care for such an outbreak there is no state aid, either expert diagnosis or funds for treatment. Being only little children, they get no protection in this state. Compare this procedure, or lack of it, with the prompt action taken in North Dakota with a case of hog cholera."

If any misanthrope were to put, in my presence, the question, "Why were we born?" I should make reply, "To make an effort."—Charles Dickens.

"It is with narrow-souled people as with narrow-necked bottles: the less they have in them, the more noise they make in pouring it out."

INOCULATION OF THE BACILLUS OF WORK*

Preparation of the Patient—The Occupational Diagnosis—Occupational "Applications," "Hypodermics," and "Lumbar Punctures"—The Therapeutic Value of Drawing and Modeling—Like Water, a Tonic and Alterative

By GEORGE EDWARD BARTON, A. I. A., Director of Consolation House, Clifton Springs, N. Y.

IN occupational therapy, the value of drawing may well be compared to that of water in materia medica. Its effects are fully as far-reaching. It can be made to increase or decrease temperature; it is an easily graded tonic and stimulant of the mildest type; it can be used to cleanse; and, in addition, it is a most far-reaching and powerful alterative, strong and helpful as iron.

Perhaps its greatest value lies in the ease with which it can be made to dilute and to "carry in solution" other occupations. Simple as it seems, it should follow, and not precede, such occupations as squeegee making, paper folding, Japanese brush work, etc., in most cases, and especially in cases of measles and other diseases in which eye-strain has to be considered.

Few are intolerant of it, for it is more natural for the human being to draw than it is for him to write. Habit demands little consideration; for even the artist can usually be delighted and helped by the study of projection, or of isometric; even the engineer or the architect charmed with the Japanese brush. The shipping clerk can be interested and helped by the study of lettering, a subject of equal value to the refined neurasthenic who is desirous of making place-cards, illumination, etc.

It is not dangerous, except in cases of eye-strain or cases in which the patient, by doing too much, becomes overtired, or cases in which drawing provokes other weaknesses, as may be the case, for instance, in sexual abnormality or in pulmonary tuberculosis.

There is nothing in the whole range of industrial life of such value. It is of far greater importance than is speech or writing, for it is the universal language of labor. A properly made drawing is intelligible to anyone understanding how to read drawings, irrespective of time, place, or nationality. It would take an expert engineer many times as long to express the simplest form in speech or in writing, so as to be comprehensible to the worker; and really complex forms of complicated movements could hardly be expressed by anything else but drawings.

For instance, a nail or a turning lathe could be described in simple language. But a screw or a screw-making machine could not possibly be so described because their very essence is complex.

But to teach drawing, as is true of most subjects in occupational therapy, it is necessary first to stimulate the desire to do—to learn—in the patient himself. And you will all agree that this is by far the most difficult part of our work.

Because my own method seems to be proving of some value, I shall venture to explain to you, and to illustrate by cases, how I approach the subject, especially in regard to drawing and modeling,—for modeling is merely drawing in three dimensions.

Having received the physician's diagnosis of physical or mental condition, I make what I call an "occupational" diagnosis in order to discover, if possible, latent interests which are not at first obvious. This is the result of study of my first psycho-analysis, in which I probe not so much for sexual tendencies as for latent interests. I find frequently that a keen interest does exist, although quite as frequently the interest itself is overlooked by the man, who is usually as unable to analyze his own desires as is a patient to diagnose his own symptoms. This interest once isolated, I endeavor to handle it in much the same way that the physician prepares a bacillus for an autogenous vaccine; that is, the interest isolated, I try to surround that interest with a mental condition which acts as a culture in which the germ can grow. I shall give you cases later. If no "germ" can be found, or if it cannot be isolated, making an autogenous vaccine impossible, I inoculate the patient with what I call the "bacillus of work,"—of such work as will include the following fundamentals:

First, the preparation—the learning—of the work must fit the needs of the patient at the moment, and allow of such changes and developments as will follow necessarily in the convalescence and cure of the disease; *second*, the occupation must be one which once learned will be of value to the patient after convalescence is over. By value I do not necessarily mean money, although, indeed, in a vast majority of cases, remuneration plays an important part.

"It should be remembered that a return in money is not the only way by which a patient can remunerate society for his support and for the loss of his produce.

"If the patient can be sent back to his old job

*Presented at the First Consolation House Conference, March 15-17, 1917.

(in which it appears the majority always succeed better) with resistance so increased as to preclude further activity of the disease, that extra strength may be compared to 'surplus' or 'reserve'; if he has utilized the months or years spent in treatments in fitting himself to do his job better than he did it before, his gain in efficiency may be fairly considered an 'interest' upon the capital necessary for his support.

"If in addition he can, while under treatment, produce marketable goods of commercial value, that product may be classed as 'improvement of property,' decrease in 'running expense,' or 'unearned increment,' as the case may be, all of them items of such significance that 'masters of finance' disregard them in not the slightest degree anywhere *except in the institutions.*"[1]

All the other problems of medical diagnosis, so far as I know, enter into those of occupational diagnosis. All the variations of intensity and complications to be considered in medical diagnosis find their place here as well.

Many of the problems which come to us can be compared to the doctor's diagnosis of merely "overstrain" or "insufficient exercise," or "cold," or "rheumatism," which can in a very similar way be satisfactorily treated by a salve, a lotion, an antiphlogistic, or analgesic—cases so simple, occupationally speaking, that the patients can be induced to try to do something merely by careful conversational effort (by suggestion). The occupations and the treatment for such cases I call "applications."

But there are many cases where superficial stimulation is not sufficient, cases in which one has to get inside into the blood, or into the muscle itself. And for these there are occupations which I call "hypodermics."

But there are still other cases so very much worse that it is necessary to go right in through the backbone of the patient, in order to find out what the real trouble is, or how to relieve abnormal tension. These I call "lumbar punctures."

Now, just as it is safe to leave the occupations which I call "applications" in every bathroom, along with the hamamelis, those occupations which I term "hypodermics" cannot be left about so carelessly, because if the patient is to be uninjured, the needle of the hypodermic must be sterile, at least, even for a placebo; and you will, of course, see at once the absurdity—the criminality—of any but a practiced hand attempting a lumbar puncture.

As illustration of what I have called "applications," I shall cite the following case:

Early in the summer of 1915, I was asked for advice and assistance for G. S. This boy, 17 years of age, was the son of Swiss parents, both of whom were clean, healthy, and respectable. The father, though reported "stupid," had been employed by one of the best firms in New York as a blacksmith for some thirty years, but on account of failing eyesight, was obliged to give up his job. Two other children were reported "half-witted," and G. had been kept in the delinquent classes at school until he had reached the age limit fixed by law for such cases. It was said he could learn neither to read nor to write. Medical diagnosis (by a physician) pronounced him well in every way. Neurological diagnosis (by a physician) was merely "deficient." Psycho-analysis (by G. E. B.) discovered no abnormal sexual tendencies. Occupational diagnosis (by G. E. B.) showed interest in drawing, especially for what he called "pictures" (colored sketches of birds, etc.), and he liked to work with tools. His drawings were very neat, clean, and fairly good. Regarding reading, it "did not interest him." Of writing, he said, "What's the use? I have nothing to express."

I saw and talked with him in New York in July, 1915, and feeling that his weakness came really from timidity rather than from an inability to learn, I invited him to visit me at Consolation House. For three days I let him play with pencils and water colors, making birds, etc., observing him carefully all of the time. On the afternoon of the third day he went into one of his frequent "day dreams," and, after watching him sit motionless for some ten minutes, I asked him what he was thinking about. He said, "Nothing."

"G.," said I, "it is impossible. You may be thinking of something you do not want to talk about, you may be thinking of something unpleasant or something nasty, but even if you were thinking that you were not thinking, you were nevertheless thinking that you were not thinking."

This fundamental of Descartes was the first real impression I had been able to make on G. It struck him as being excessively funny. But, after some argument and a good deal of thought, he admitted that it must be true. Still he declined to tell what he had been thinking about, on the ground that it was "too silly." After a rather brutal forcing, however, he finally admitted that he did not see "why color could not mean something besides just color."

"G.," said I, "you *are* a fool."

This coming just when he had begun to believe that I thought him less a fool than anyone else ever had before struck him as a painful blow, as I intended it should.

[1]Barton: Occupational Therapy, pp. 50-51.

"I know it," he replied sadly. I took him at once to my library and read to him a selection from Pythagoras on "the essential qualities of numbers." I showed him old Chinese magic squares and cubes, together with the magic square of Benjamin Franklin, which Franklin admitted he could not understand. I then showed him the relation between the ancient Persian religion and the Chaldean mystics, and their relation to the modern theory of vibration. Then, after having deliberately caused his head to swim with the magnitude of the subject, I said, "G., I called you a fool, not because of what you said regarding color. I called you a fool for having an idea that you or anyone could, offhand, express an idea which has defied human expression for several thousand years."

The following day, as we were sitting in the garden, he noticed that my Canterbury bells were blown down, and suggested that sticks be placed by them.

"There are some old lath in the shop," said I. "Just chop them in halves with the hatchet and use them."

When he returned I found that he had neatly sawed and planed them. I said:

"G., why did you do that? I told you merely to cut them in halves."

"I thought they would look better," he replied. That evening, I said:

"When a friend of mine does something I do not like, I find it is better to tell him. And you have done something I do not like. You have lied to me."

This he denied. I said:

"You told me the other day that there was no use in your learning to write, because you had nothing to express. Then you straightway go and perform a greater amount of work than would be necessitated for the writing of an essay, and you planed the garden sticks because you wanted to express your desire for neatness and beauty in the garden. And you wrote it as well with a plane as I could have done with a pen."

"See!" he said, "there is a robin on top of one of the sticks now. It would be nice if it would stay there all the time!"

"Tomorrow let us make one of wood," I said. "We will cut it out with the jig saw, and *have* one there all the time."

"Yes," he said, "I saw some of those in a shop on Fifth Avenue once, all painted and fixed up."

Said I, "Why do you suppose they keep them in the shop?"

"Well, it must be that they sell them to someone, because they don't keep much in a Fifth Avenue shop that people do not buy."

"Well," said I, "while you are here, why don't you make some? Maybe you could sell some too, and help your father."

These two incidents, I think, show sufficiently my line of "treatment."

In spite of his desire to stay and work for me, I sent him back to New York filled with a desire to endeavor to express himself in other ways than by writing, but with a better realization of how handicapped he would be without a knowledge of what other people had done and were doing in the line in which he hoped to be proficient, and with a dawning belief in himself and in the value of ideas which before had seemed to him only too silly to be worth the endeavor to express.

Shortly after his return to New York, I received a letter from him, very poorly written, with no sign of punctuation, poorly spelled, but perfectly clear.

A letter notified me that G. had taken a position, found for him as an office boy at a novelty manufacturing company. Another letter a year later said:

"You will be glad to know that G. S. is doing well. He has continued at night school all winter, had his salary nearly doubled in seven months, and is now making $9 a week, because, in addition to proving of value as a general helper to the novelty company, he has also suggested one or two novelty designs which have been accepted. He is stimulated to do more work in that direction, perhaps independently."

While I doubt very much if G. S. will develop into an Edison or a Maxim, he has, at all events, proved that he is not a mental defective from a commercial point of view, and has supported himself, instead of becoming a charge upon the state.

He is a typical case of the type for which our educational system makes no adequate provision. His family unable to care for him, he might easily have been transferred to the dependent class, might easily have remained in that class from five to fifty years. The money spent for his support during that time would have represented the interest on a very considerable capital.

Here is a "Tinkertoy." This patient, 43 years of age, a bridge engineer, highly educated and refined, was worrying over an approaching operation. At first sight, I think, it would seem absurd and entirely irrelevant to offer to a trained constructor so simple a toy. The virtue, however, did not lie in the toy. I took it to him one day and said:

"There's a kid down the hallway whom I'm trying to instruct in joinery. He can't get over that old feeling that we all had once, that the post of a truss stands on the tie beam and sup-

ports the rafters. You'd help me a lot, and assist the kid also, if you'd make up a truss out of this fool thing, in such a manner as will demonstrate that the post is supported by the rafters, and merely prevents the tie beam from sagging."

The engineer's great knowledge of the subject kept him dissatisfied with the examples he made, for many days.

Now for those cases which I call "hypodermics." This patient, a man 32 years of age, confidential clerk in a big commercial concern, had a kidney operation, the wound from which refused to heal. His worry about the probable loss of his job and the fact that his sisters, instead of being supported by him, were paying his hospital expenses, prevented that upbuilding of his system which the physicians assured me was all that was required.

My occupational diagnosis was completely negative. I could find no trace of interest in anything suggesting work. My psycho-analysis had been conducted on my porch, and the only interest in anything which I could see breaking through his lethargy was in the scratching of an old white hen loose in the garden.

The teacher from whom I have learned what little I know of psychotherapy told me once never to disregard any keen feeling which I might have about a patient, however improbable or unreasonable it appeared to be at first. Well then, try the hen. Now, just as it is necessary for a doctor to have his tray prepared, his syringe sterile, and his serum at the right temperature, so is it necessary for us to have our occupational trays prepared if we are going to attempt an inoculation. I prepared my tray, in this case, by merely making up my mind as to the proper course of procedure; and at my next interview conversation was much as follows:

"Have you ever been to sea?"

"Yes."

"Out of sight of land?"

"Yes."

"Suppose you had been on a big ship, out of sight of land, everything was fine, and you fell overboard, and the ship went on, and it was night. What would you do?"

"Swim like the devil."

"Well, that sounds all right, but I wonder if it really would be the thing to do. How would you know that you weren't swimming towards Spain? And any fool knows that he can't swim to Spain."

"Oh, well," said the patient, rather bored at this seemingly useless conversation, "I suppose the thing to do would be to turn over on my back and float until the sun did come up and I could take an account of stock."

"Well," said I, "suppose now while floating your hand came in contact with a big box-like thing that was floating. But it's slimy, and dirty, and doesn't smell good. What would you do?"

"Climb up on it and rest."

"Wouldn't it be a sane thing to roll over and drown? What's the use of living if you're just going to live on a dirty, stinking box?"

Very much peeved and irritated, he answered that he couldn't expect to live on it, but only to rest on it until he could see something better to do.

"Well," said I, "this hasn't been foolish, because that's just what's happened to you. You *were* on a big ship, going finely, and you *did* fall overboard, and you *are* out of sight of land, and it *is* night, and you *don't* know where to swim, and I'd like to help you. But the only thing I can do is to push along a dirty, stinking box for you to rest on a minute. I wouldn't take the trouble to do that, if you had to live there forever, but just to rest on till the sun comes up and you can get your bearings. The doctors tell me that all you need is a little exercise and to eat. And if you exercise and eat, you've got to sleep, because you can't possibly help it. And if you do that for a little while, you'll be well. The sun *will* come up. I want to rebuild my henhouse, but I don't know anything about henhouses or hens, and I have to spend so much time talking to you fellows that I've hardly got the time to spare to hunt up the subject. Now you help—find out first what kind of hens we want to keep, what's necessary for them, what we've got to do to the henhouse to make it habitable, and then we'll do it."

He took the needle very nicely—started off the next day on a series of investigations to near-by henhouses, gathering information about hens and houses. It had been impossible to induce him to take even a short walk before. As he grew stronger and felt the joy of working on clean boards in the early mornings in spring, followed by a bath, and bigger dinners than he had ever eaten before, and afternoons quietly spent in studying the subject on which he was to work tomorrow, the result was inevitable. Incidentally, he learned enough of drawing and building so that, when a year afterward the little chicken ranch which he had started for himself burned down, he rebuilt it with his own hands.

But now to illustrate the really difficult case (though it has no direct relation to drawing)—the "lumbar puncture." A young woman highly refined and educated, anemic and psychasthenic, regarded her body merely as a rack upon which her nerves, like sharp hooks, supported her quivering emotions. She took no interest in outdoor

exercise or sports, and was rapidly burning herself out. Her interest in her own quivering emotions was taken as the germ from which to prepare the vaccine of work. Now for the culture! It is obvious how easy it was at first in conversation and by reading aloud to stimulate this already keen interest with such subjects as mysticism, eastern philosophy, etc., and the step to Maurice Maeterlinck's "The Treasure of the Humble" was an easy one. From that to the same author's "Wisdom and Destiny" was also simple, but here the temperature was slightly changed, and the argument and conversation turned more to the physical questions of life than to the purely metaphysical ones. It was natural to go on with the same author, and with "The Life of the Bee" came an interest in practical experimentation with what had begun as purely metaphysical speculation. Practical experimentation meant the purchase of hives, the introduction of swarms, sitting out of doors in the sun and watching the bees, and the rapid change from the mere speculation regarding their psychic qualities to the endeavor to better provide for their physical well-being.

I hope that I have given you enough to show my method of dealing with the stimulation of interest.

Drawing is commonly supposed to be an art for which an individual must have a talent. It is true that some, largely owing to the fact that they have more accurate vision, become proficient more rapidly—more easily—than others. But drawing is a natural desire for almost every one. A child with a piece of coal, on a scrap of paper, at once begins to draw "a man," and his drawing is very similar to that of the early American Indian, the Aztec, or the Egyptian. Leave a child beside a mud-puddle, a sand-bed, a piece of butter, or a bit of mashed potato, and he will at once begin to model.

The ability to draw does not demand talent. To be sure, there is a life's work between the drawing of a dog or a man by the child, and the dog of a Landseer or a Barre or the man of a Michael Angelo.

But the drawing of figures, or even the whole subject of free-hand drawing, including as it does casts, landscapes, shadows, designing, etc., is but a part of the whole. Mechanical drawing, with its subdivisions of machine, architectural, isometric, projection, perspective, chartography, etc., still leaves the subject incomplete, for drawing is necessary for the expression of the designer or the inventor.

Each of these divisions is capable still of being subdivided, making an almost endless combination of interests and studies of different value, both therapeutically and reeducationally. The very fact of its intricacy and the great number of subdivisions, each involving different mental and physical exertion, instead of complicating the subject for therapeutic needs, makes it especially valuable and easy to handle.

One of the greatest difficulties in the teaching of the sick is to keep the patient constantly interested, while, if not constantly helping him, at least doing him no harm. To meet this difficulty, it is frequently necessary instantly and without previous consideration so to change the day's work that the interest may be maintained without injury to the patient.

For instance, suppose an occupational director is using drawing as an antipyretic with a given patient. The patient, having "discovered" on the previous day a most surprising result with the Japanese brush, is "just crazy to try it." Unfortunately, the very fervor of his desire has helped to increase, and not decrease, temperature. The teacher should change the occupation that day for the patient's good. But, unfortunately again, the suggestion that the work be given up, even for the day, frets the patient, who, by fussing, again increases temperature. The experienced teacher would not suggest a "change," but would become enthusiastic himself, seeing an application of the patient's "discovery" to stenciling, which, because it can be done in a recumbent position, because it produces quick results and is not easily spoiled, has a quieting influence, while leaving the patient with the thought that, though not doing exactly what he wanted to do, it is nevertheless along the line of development of his "work."

An elaborate outfit is not necessary for elementary instruction or practice. An understanding of plan, elevation, and section can be the result of a study involving practically no movement, be of great value to almost anyone, and requires no more than a sheet of cross-section paper and a penny pencil.

The well have a curious habit of forgetting that what is to them but a trifling inconvenience, to be patiently "put up" with, is to the sick a source of suffering, delaying recovery, if not actually hastening death. The well are scarcely ever more than eight hours, at most, in the same room. Some change they can always make, if only for a few minutes. Even during the supposed eight hours, they can change their posture or their position in the room. But the sick man, who never leaves his bed, who cannot change by any movement of his own his air, or his light, or his warmth; who cannot obtain quiet, or get out of the smoke, or the smell, or the dust; he is really poisoned or depressed by what is to you the merest trifle.—Florence Nightingale, "Notes on Nursing."

OCCUPATION THERAPY IN THE MENTAL HOSPITAL

Work for the Mentally Ill Should Be a Medical Prescription—Scientific Study Needed —We Should Know Types of Occupation Needed in Various Classes of Cases

By A. H. RUGGLES, M. D., First Assistant Physician, Butler Hospital, Providence, R. I.

"Absence of occupation is not rest,
A mind quite vacant is a mind distressed."

IN this quotation from Cowper, we find a prescription for occupation therapy given long before our institutions for mental diseases were writing such orders. Of course, this is not the earliest reference to the value of work therapy by any means, for in Ecclesiastes we read, "By much slothfulness the building decayeth and through idleness of the hands the house droppeth through," and many of the writings of ancient times have reference to the value of activities of all sorts.

In 1900 the first organized efforts at occupation therapy had their inception in Butler Hospital with a shop for the men, who were instructed in brush-making, broom-making, cane-seating, mattress-making, and various other forms of handiwork. In 1905 the work for women was organized under Miss Jessie Luther, after several spasmodic attempts by others.

If I were to detail the growth and development of these departments, I would only repeat what has been recorded by many others in both public and private hospitals caring for the mentally sick. I should, however, like to recount a few general principles of work therapy that we have found of value and to refer to some psychological principles underlying this form of treatment for the neuroses and psychoses. And before I state these principles, I want to offer a word of suggestion to parents, physicians, teachers, and all those dealing with the broader conceptions of mental hygiene. In the case of those individuals who have no definite "bent," the choice of occupation is often a vital one for their future health and happiness; as has frequently been pointed out in recent years, very few of us overwork, but some of us break down because of work with worry. For the neurotic and psychotic is this choice especially important because, unless the weak points of their make-up are, in a measure, overcome by their work, neuroses or psychoses may be fostered. We have seen many patients come into Butler Hospital as a result of a misdirection of their adolescent activities, and only too often the misdirection has gone on so long that proper stimulation along occupational lines is only successful in a small measure.

In the care of the nervous or mentally ill, work should be given only as a medical prescription; it should be prescribed only after careful mental and physical examination and with as much thought on the part of the physician as he would use in determining whether a given patient needs a vagotonic or a sympathicotonic drug. It seems to me that, in the past, much of our well-meant effort has been without system and has failed to make an accurate study of the individual needs, and the patient has thereby suffered. This systematization of effort can only be brought about by careful cooperation between occupation teacher, nurse, and physician.

First, not only must the teacher know the theory and practice of her profession, but also she should have a thorough grounding in the psychology of mental disease so that she can realize the desultoriness of the manic, the inattention of the dementia precox, and the discouragement of the depressed case. She must apply the soothing effect of rhythm in handwork as we find it in pattern weaving and other types of handicraft just as it is applied in music to create harmony, and must give due consideration to the stimulus on all classes of patients of useful work completed.

Secondly, the nurse, to be an efficient factor, must be trained in occupation therapy. The time should already have arrived when the training school for mental nurses that does not include some practical instruction in work therapy in its curriculum shall be considered negligent. We would not think of letting our nurses graduate without a practical knowledge of the effect on their patients of digitalis or thyroid extract, and yet how often we still witness the spectacle of the nurse watching the mental patient trying to complete a given piece of work without knowing whether that patient is deriving harm or good from the task. Probably not more than 10 percent of our patients get either of the drugs mentioned, while certainly over 50 percent are in need of occupation therapy.

Thirdly, it goes without saying that the doctor understands the psychology of mental disease and appreciates the principles of employment, but that is not enough; he should, in addition, be imbued with the belief in the value of work and be able to impart that to all about him until every patient that is allowed occupation (and very few are not) is filled with the spirit of work and accomplishment. I know of no more encouraging sign in the progress of a case than to see the depressed, egocen-

tric, ambitionless individual begin to execute work that is to benefit some other person. Then we know that the vicious circle has been broken through and that we may hope for further gain. The physician should understand fully the relation of occupation to the stimulation of attention, the value and application of which we see especially in the dementia precox case; to the development of judgment and insight, as tested by choice of colors and materials and by appreciation of the value of the completed product. He should be able to prescribe employment in the endeavor to broaden the field of ideas, and to do this he must realize the importance of giving the patient work entirely different from his accustomed task. We too often fall into the error of letting our patients do what they can already do, because it is the path of least resistance, without considering that we may be adding to fatigue-poison already damaging the nervous system.

The direction of an overplus of energy is a most important physiological consideration that should engage the attention of teacher, nurse, and physician, and often results in getting an active patient to do much of the work of a ward instead of upsetting the whole place and all its occupants.

All of our hospitals can show examples of active disturbed patients who have been given a chore to do and in doing it have become quiet and constructive, and I feel very sure that we could, each one of us, multiply such examples in our individual institutions if we had the patience and vision to experiment.

I know of no better tonic for the depressed patient than the beholding of some article which he has completed and which he realizes will serve a useful purpose, and we must guard very carefully against giving the down-hearted individual a too long or difficult task, for in so doing we may lose his entire cooperation. Not with the depressed cases only, but also with many other types, is the psychology of useful accomplishment a potent factor for good. The patient with feelings of unreality and vagueness or the one with antisocial trends is brought back toward the real and the personal in life when he sees that he has produced some article that will serve as an integral part in his own home or be of use to the hospital ward or have monetary value in a sale. Certain practical aspects of the problem may be of service. Work out of doors is most valuable. We do not fully utilize the fresh air and sunshine as therapeutic agents. The old-time argument of certain patients and relatives that they did not seek hospital care to be put to work should be forever silenced with the reminder that he sought the hospital to regain health and that in work he may best attain that end. I know of no more healthful and useful pursuits for men, and women too, than can be found in a choice of some of the following: gardening, trimming trees, raking leaves, sawing and chopping wood, laying out roads, tennis courts, and ball fields, repairing fences, grading, and shoveling snow. The rich perhaps, even more than the poor, profit from these types of work and through them build up reserve for future stress and strain. Of course many months in the year a large number of our patients must be employed indoors, and for them the resources of our modern well-lighted and well-ventilated workrooms and wards furnish plenty of forms of occupation. I do want, however, to emphasize my great belief in the value of real physical labor, when possible, out of doors, as contrasted with a somewhat too prevalent tendency to allow patients to consume most of their energies on repeated attempts at baskets and other handicraft products of doubtful usefulness. In these days when we are all called upon to do valiant service and to labor hard under the heat and burden of the day, should we not introduce a spirit of real service and sacrifice into our institutional work courses?

In closing, I want to call attention to the need for more systematic and scientific study of the uses and types of occupation therapy and the psychological principles underlying. Is it too much to expect that we may have occupation charts showing the types of occupation indicated in certain psychoses and neuroses and that with them we will have directions for the length of time to be given and symptoms resulting from wrong application?

WORK ESSENTIAL TO CURE IN TUBERCULOSIS

Tuberculous Patient Needs Work After Disease Has Ceased Activity—Average Patient Spoiled by Rest

Dr. W. T. Brown of Valmora Sanatorium, Valmora, N. Mex., writes, in answer to an inquiry from THE MODERN HOSPITAL:

"I am firmly convinced that work is essential to a cure in tuberculosis; that is, of course, after practically all symptoms of activity have disappeared. I have tried a number of things, but so far have failed to find any work that interested the patients. I am sorry to say it, but it is true—the average tuberculous person by the time he gets to the sanatorium has been so thoroughly mollycoddled and given so much advice about absolute rest that it is almost impossible to get him to do anything. The majority I think would prefer to be fed with a spoon so that they would not have to go to the trouble of cutting up their own meat.

"I am going to start an automobile school where I shall teach the care of the automobile, repair work and driving. I shall also put in a complete vulcanizing plant and teach tire repair work. This I hope will interest them, and I think it will, because it will be teaching them a trade that will enable them to earn their living in this country."

WORK IN THE TREATMENT OF INSANE CRIMINALS

Indiana State Hospital Proves That Occupation of Patients Pays—The Therapeutic Value—The Financial Returns

By PAUL E. BOWERS, M. D., Medical Superintendent, Michigan City, Ind.

THE ancient Romans displayed their wisdom when they adopted the famous motto, "Labor omnia vincit" (Labor conquers all things). Work is a panacea for many of the mental and physical ailments to which human flesh is heir. The famous physician Galen once remarked, "Employment is Nature's physician." And true it is to a great extent, for, if the mind is absorbed by good, wholesome, suitable work, its tendency to dwell on physical and mental troubles is lessened and the adage "Out of sight, out of mind" is involuntarily transposed to "Out of mind, out of sight." The instances are many in which persons have been led to forget their maladies temporarily, their minds having been engrossed by some widely different subject, especially by a light, congenial employment.

It was not until about the last quarter of the last century that the subject of the treatment of the mentally sick was given any serious attention, and this was true even of the medical authorities who had in their care the mental unfortunate. At this time there was an awakening to the facts that there was a great field of therapeutics to be developed, that many cures could be effected among the insane, and that many mental conditions could be ameliorated by treatment. As a result of this awakening, the modern hospitals for the insane came into existence, and the insane have been treated for some time by various kinds of therapy. The latest among them to be adopted is industrial therapeutics or work treatment. It is to be regretted that this rational, reasonable, productive, and efficient treatment is not more generally employed than it is in our hospitals for the insane.

It is a sad sight indeed, on visiting the hospitals for the mentally deranged, to see the patients idly sitting around in lifeless monotony in detention wards, except for the never-ending drudgery of hospital chores and cleaning-up processes. A normal individual must have work to maintain a healthy state of body and mind, and, since this is the case, we can readily see that selected work for the insane is necessary. "Idleness is the parent of all vice and evil," a Teuton proverb asserts, and a noted churchman is quoted as having remarked, "The devil seeks the unemployed first of all." Therefore, why should the poor demented ones, once thought to be possessed of devils and evil spirits, not be doubly the victims of temptations, hallucinations and morbid inclinations, for lack of something to divert their attention from their lamentable condition? Work dispels all this trouble which idleness produces. Depression always prohibits or retards mental recovery; therefore, if recoveries are to take place, the depressions of idleness must be removed.

In recognition of this fact, a method of employment was devised and put into execution at the Indiana Hospital for Insane Criminals. A workshop 64 feet wide and 100 feet long, with plenty of light and ventilation, was constructed. Forty-two hand looms and two sock machines were installed. Forty-six criminal insane patients welcomed the chance to employ their minds and hands to help them forget their mental troubles in the solace of regenerative activity.

The purpose of this work is purely one of treatment and cure. Just at this point I shall not attempt to measure its medical value, but I am pleased to be able to report the following cases: One inmate of the hospital for insane criminals who, owing to his sad mental conditions, was very quarrelsome, unruly, and a source of great care and constant observation to the attendants in charge, took to his work with such zeal and energy that he soon became quite proficient, so that now he leads the remainder of the patients working at the looms and holds the record of making 18 yards of toweling a day. Another unfortunate, a terminal dement, who formerly marched up and down the hall of his ward making all sorts of gesticulations, grimaces, and incoherent soliloquies, now finds both employment and enjoyment in turning a wheel winding bobbins. A third case is one of a boy with suicidal mania, whose sole thought was continually occupied with self-destruction and who thus was an object of the strictest observation and care of his attendants. Since the work treatment has been introduced he has been made a sort of overseer of the looms, to see that they are all running smoothly. No longer does his mind find time to contemplate how to end his existence. He is so engrossed with a sense of responsibility that the suicidal inclinations are expelled and replaced by thoughts of industry and a feeling of being something important among his fellows.

These cases cited would justify the labor and

expense of introducing the work treatment from a humanitarian point of view alone. The patients themselves recognize the value of this treatment, as can be seen from the many and continuous applications for work in the factory. All sorts of exaggerated promises of good behavior are made by these applicants, who, as a rule, are among the most ungovernable.

Occasionally I receive letters on different subjects from the patients expressing their grievances, hopes, desires, fears, etc. When I was

Fig. 1. Right entrance to Indiana Hospital for Insane Criminals.

writing this article a letter in regard to this work treatment came to my hands from one of the patients, who was formerly regarded as vicious. It would perhaps be of interest to quote some of the statements he made:

"I would like to say it is vastly beneficial to the patients, in that, while the work in no way exhausts them, it gives them plenty of bodily exercise and at the same time keeps them mentally occupied. They rest better on account of having labored during the hours of the day instead of idling them away. Then they have no time for their petty squabbles or to nurse their imaginary fears or troubles. This in itself, I think, will be of great value in helping to restore those for whom there is a hope of recovery."

Now let me briefly state what actually has been done in our shop since its installation, December 1, 1915. Notwithstanding the fact that the workers were insane patients, the attendants themselves without experience as to the mechanism and operation of the machines, 3,057 yards of hickory shirting, 10,029 yards of linen toweling, 50 yards of cotton toweling, 35 yards of ticking, 121 woolen blankets and 9,946 socks have been made. Additional articles were manufactured, repaired and renovated at the shop: 600 socks from old yarn, 2,350 pairs of socks darned, 369 made complete or renovated, 40 rag rugs, 350 pillows made complete or renovated, 8 sisal door mats, 288 cotton flannel gloves, 820 mittens, 110 ear muffs, 99 cushions made complete or renovated, 56 sisal floor brushes, 61 pairs of sneaks, 2 regulations size U. S. flags, dusters, holly wreaths, paper flowers, 100 feet of paper chain, 1 brace and bit, 1 table, 1 desk, 1 waste paper basket, etc. In addition to this, all repair work, renovating, etc., of hospital bedding and clothing was done.

Other diversional occupation was furnished our patients in the form of intensive gardening by careful rotation of crops. During the last three years there have been raised, on a little less than an acre of pure sandy soil, the following vegetables: onions 80,000, radishes 43,600, beans 4,359 pounds, peas 128 pounds, lettuce 2,174 pounds, cucumbers 6 bushels, beets 39 bushels, watermelons 300, muskmelons 1,700, cabbage 850 heads, turnips 1 bushel, tomatoes 129½ bushels, horseradish 19 bushels, celery 11,000 bunches, red peppers 1½ bushels, swiss chard 24 bushels. This amount of vegetables was sufficient, except for potatoes, to supply the needs, during the season, of both the Hospital for Insane Criminals and the prison hospital, with a combined population of nearly 250.

Incidentally, there is an economical side to this method of treatment. The products have value. That lessens expense. Larger looms for the weaving of blankets and rag carpets will be in-

Fig. 2. Two baseball teams composed entirely of insane men in Indiana Hospital for Insane Criminals.

stalled as soon as possible, and then our shop will be a great commercial asset, more than it is at present. It is safe to say that, after all the institutional needs are supplied, we can find a ready sale in the open market for the excess products.

The value of industrial therapeutics or work treatment is threefold: First and most important is the good that is received by the patient. He is led to forget the misery of his mental state; the obsessions which continually harass and torment him are relieved; their direful influences rendered less noticeable and painful. The patient loses to a large degree the tendency to introspec-

tion and retrospection, becomes happier, more quiet and peaceful; the course of his mental disease is retarded and there is a general improvement in his physical condition, brought about by exercise which produces better appetite and restful sleep. The habit of masturbation is very much repressed; the thinking processes are carried on in a more orderly and logical manner, and occasionally social recoveries will take place even

Fig. 3. Plan of first and second floors of Indiana Hospital for Insane Criminals.

among those who have been classified as hopelessly insane. Secondly, there is less destruction of clothing and hospital property; discipline is improved.

Thirdly, the institution and the state derive benefits from the work plan. More recoveries take place; fewer attendants are needed; institutional property is better preserved; expenses are reduced on clothing and food items; and thus the hospital becomes self-supporting to a certain degree.

The committee of the American Medico-Psychological Association of 1913 made the report on

Fig. 4. Third floor plan of Indiana Hospital for Insane Criminals.

diversional occupation as follows: "Diversional occupation, scientifically and systematically applied, marks the standing of a hospital, and if neglected or omitted the patients are not receiving the most modern care and treatment to which they are entitled." Once this idea becomes general, not so much time will be spent in building palatial hospitals. Patients do not derive benefit from excessive ornamentations and undue outward show. Plain, commodious, sanitary buildings, healthful surroundings, wholesome food, and work to divert the mind are essentials to bring about recovery. This is accomplished by gladdening the sad heart of the poor patient, thus dispelling the baneful nebulæ which cloud his intellect—by making him realize and feel that he is not forsaken or persecuted, as so many fancy, but that every effort is being brought to bear to place him upon the plane which Nature has intended for everyone to occupy.

It is my personal opinion that 75 percent of all the patients at the Indiana Hospital for Insane Criminals can be employed 75 percent of the time. The patients now look on the opportunity of working in our shops as a much-coveted privilege, and a very noticeable improvement has been made in the conduct of many of them to earn the chance to do and make something that is worth while. It is sincerely hoped that we shall in a short time be able to give every patient who is mentally and physically able to work an opportunity to find pleasure and relief from the ordinary irksomeness of institutional life. The experiment here has proved beyond a doubt that work treatment is valuable and necessary.

Suture Manufacture in America

At the outbreak of hostilities in Europe a very serious problem was presented in view of the fact that practically all of the raw catgut used in this country for surgical purposes was made in Germany. A committee of the American Chemical Society, on looking into the matter, finds that existing conditions are not so serious as pictured; in fact, they are very promising.

These very essential requisites of the surgeon are not catgut at all, but result from the proper treatment and curing of sheep intestines. American manufacturers have for many years been very skilful in converting the cured gut into a high-grade suture, but as in other lines they have taken the way of least resistance and have been content to import the raw materials. As the demand for this very important article increased, it became necessary to look about for a domestic supply.

Naturally, the attention of the great packing houses was directed to this subject, and almost over night several plants were erected, equipped, and the method of manufacture perfected, so that toady not only are the intestines used for sausage casings but many thousand are being consumed in suture manufacture. The methods employed in curing the gut have been held as more or less family secrets on the other side of the water, but when the Yankee got busy he soon unraveled the secrets, and today is producing a cured gut which is far superior in strength and appearance to that formerly imported. Not only have American manufacturers produced a better raw material, but also the suture manufacturer has kept ahead of the times by making many improvements in the methods of sterilizing and storing the finished product.

ALLEN ROGERS,
Chairman American Chemical Society.

SOME PRINCIPLES OF OCCUPATIONAL THERAPY

Essentials Are a Well-Defined Program of Work, Carefully Studied Adaptation to Patient's Condition, and an Expert Industrial Director, Not a Mere Shop Boss

By ELIZABETH G. UPHAM, Director of Art Department, Milwaukee-Downer College, Milwaukee

ONE of the most interesting developments in medicine and social work in the last decade has been the discovery of the tremendous therapeutic value of work. The old-fashioned idea that a patient could do no productive work, though all his mental and physical energy was not impaired, has given way before the knowledge that idleness may be as pernicious to the sick as to the well in destroying ambition and undermining character. For some time patients able to work have been employed in the domestic service and about the grounds of public institutions. The work of such patients was found not only not to be detrimental to them, but in many cases to have a positive curative quality. It was noticed that idleness, with the accompanying depression, time to worry over symptoms, to fret about the future, and to chafe under restrictions, aggravated the disease itself, while the lack of interest and direction of thought in cases of mental disorder actually increased the unbalance. At first, the benefit of occupation was supposed to be in its time-killing characteristics. In certain advanced and chronic cases, this is all that can be claimed for it. In other cases, however, in which there is hope of partial, if not complete, recovery, occupation is found to have certain definite effects. It centers the patient's attention away from himself. Thus mental debris is cleared away and the real physical symptoms remain, which form a reliable index to the physician in diagnosis and prognosis. The effect of manual work is to strengthen muscles and coordinate the body. Change of occupation stimulates the brain, while continued application concentrates it. Employment, moreover, gives a brighter and healthier point of view, which reacts favorably upon physical conditions.

The purposeful occupation of patients in public institutions is not new. For many years there has been an increasing appreciation of the value of work as a remedy among people who have broken down mentally, nervously, or physically. Much credit is due to the pioneers, especially in the state hospitals, the men who broke through tradition and who dared to put their patients to work.

The modern science of therapeutic occupations for the handicapped is, however, scarcely more than a decade old. It is impossible to say to whom should be given the credit of the system which is now transforming the hospitals for chronic invalids. Dr. Herbert J. Hall of Marblehead, Mass., was certainly one of the first to see in a broad and comprehensive way the possibilities of an adequate system of employment for the sick. Thirteen years ago he established at Marblehead special workshops, not for the insane or the dependent, but for men and women of means who have broken down under the strain of modern life. He found that carefully prescribed work was his best remedy in dealing with the complex and discouraging symptoms of nervous exhaustion.

Since then, the experimental stage has long been passed, for hospitals and sanitariums all over the country are alike testifying to the value of work as a therapeutic agent among widely different types of disabilities. Industrial work for the insane has progressed extensively. Wrentham State Colony[1] reports 95 percent of its 640 insane patients occupied, and the Gardner State Colony not only reports 92 percent of 740 patients employed, but gives a list of occupations, varying from sewing, mending, preserving, and pickling for the women, to blacksmithing, machine tending, carpentering, furniture making, masonry, painting, tailoring, and farming for the men. Arequipa at San Francisco and other tuberculosis institutions have found industrial work invaluable in the cure of tuberculosis. The Sharon Garden pottery comes from the trade school and convalescent home for cardiacs in New York. Massachusetts General Hospital and the City Hospital of Cincinnati have workshops as part of the hospital equipment. So successful has been the occupation of patients, wherever tried, that it is only a short time until a well-defined program of work will be part of the medical treatment of all private and public health institutions.

A well-defined program of work means the adapting of work suitable for special abnormalities. It is not to overtax the patient, or to exploit him, but to teach him to help himself, to utilize to the full his limited capacity, and, whenever it is possible, to increase that capacity to greater physical and mental vigor through the training of hand and mind.

A well-defined program of work should be contrasted with the more or less haphazard employ-

[1] In Massachusetts.

ment of patients which still exists in many institutions. There is a vast difference between employing patients to accomplish the work of the institution and suiting the work of the institution to the patients. In the former instance, only those patients who fit into the institution's general scheme are employed, and, while they are in danger of overwork, others are correspondingly idle. Under this system, women patients who wish to use their hands are given sewing and knitting. They are not intelligently supervised, and so the opportunity for coordinating hand and mind, for developing certain mental processes, and for the real therapeutic value of the occupations is lost. The fact is, the patients who are misfits, who are listless and do not want to work, or who are without interest or initiative are in many cases the very ones to whom it is most beneficial. As basketry is taught under the old system, its chief value is time-passing. The patients who do not become bored are quite content to go on making the same baskets day after day, and the few who have initiative vary the stitch and pattern. Basketry in the hands of one specially trained for occupational directing is quite different. The patient's methods of work are studied in consultation with the physician, and occupation is accordingly adapted. The patient with initiative is perhaps restless and excitable, and mental poise and relaxation can best be secured by the monotony of a simple stitch on a large piece of work for a fairly long period of time. The patient who wearies quickly needs shorter and more frequent intervals of work, with a number of small pieces which have variety enough to hold attention, but which are sufficiently alike to permit the corrective effect of continued application. The patient who is content to stay in a rut, and who will make the same thing over and over again, is the very one who should have a variety which leads to more and more complicated processes of execution and thought. Under the old method, the teacher failed to reach the disinterested patient. The well-trained industrial expert watches for the psychological moment when a bit of bright-colored raffia may attract the attention of the indifferent patient. That patient's conscious or unconscious reaction is the first step. However slow the progress may be, and however little of it is the patient's own effort, each motion is nevertheless a definite gain. The moment a patient advances so far as to have an inclination or to express a choice of pattern, there is more than decision developed. Execution logically follows decision, and a host of mental forces are at work. These may be stimulated or centered, as the case may be, in a hundred different ways. A work chart, tabulating periods of time, quality of work, and observation of the effect, should be filed with the medical data, and frequent consultation with the physician insures the necessary close correlation between the two.

The particular industry selected for the patients is of minor importance, provided that it is not unfavorable to certain diseases, as steam, fumes, and bending over would be to the tuberculous, or heavy lifting to the cardiacs. The important feature is the way in which the work is directed and the method of suiting the process to the patient, not the patient to the process. Work of a very practical and economic nature holds all the possibilities for constructive treatment. For instance, laundry work may be an ideal occupation for the insane. The large, easy motions and the soothing effect of warm water are beneficial in certain cases of dementia and restlessness. Hallucinations may best be forgotten by having the attention focused upon something outside the patient which requires the patient's fullest power of concentration. As each patient will have a different capacity for concentration, there must be a variety of occupations which require different degrees of concentration. The work of sorting in laundries, tending mangles, and hand ironing meets just these needs. The running of sewing machines and the cutting and fitting of garments also demand varying degrees of concentration, while the sewing of a monotonous seam is to another patient the relief of an overwrought brain. Some patients need individual work without the confusion of others; others need the stimulation of community effort. Some need to have the mental aspect of the work emphasized, others the manual, and still others need a close coordination between the two. Dishwashing, efficiently done, is an example of the latter. The treatment is not so simple as finding the right occupation for the right patient. The condition of the patient is constantly changing and certainly should change in cases of recovery. The therapeutic value of an occupation is gone to some patients the moment the occupation is fully mastered, and recovery is measured by the systematic change from occupation to occupation, each demanding more initiative and concentration. On the other hand, the continued practice of an occupation long after its mastery, to other patients, gives just that poise and self-confidence essential to recovery. It is just this understanding of the possibilities of every type of work, and the well-timed change of occupation in close cooperation with the physical variations, which can make this work of inestimable therapeutic value, and without which it is merely negative and time-killing.

Directing work of this type is a new profession. Some hospitals are attempting to give courses in industrial work to nurses in the effort to meet the necessity for constructive work. These courses fall short in that they cannot be thorough, nor can the nurse have the background and practical experience necessary for the industrial expert. The training is, however, valuable in making the nurses intelligent assistants. The director needs to know much more than carpentry or laundry work. She needs training in the special industries and a great deal more. The secret of success of work among the handicapped lies primarily in winning their confidence. The industrial director has a particular opportunity in this field. A reserve which may have withheld vital facts from the physician and social worker will gradually break down in the intimacy of work and the daily and natural contact it brings. As the expert untangles their pathetic attempts at work, the patients become communicative and unconsciously look to her to untangle their bigger problems. Sometimes the help must come from developing the resources within the patients, and they can only recover as they help themselves. Here a keen understanding and breadth of sympathy is necessary on the part of the director who gains confidences through the medium of work. A shop boss or nurse untrained to the large social viewpoint is unqualified to meet this aspect of the work.

The industrial director must also have an economic background. She must understand purchases, supplies, and markets. She must anticipate the public demand when articles made by the patients are to be sold. She must know that artificially stimulated markets are fundamentally wrong, and that the work of the handicapped either by overproduction or underselling must not interfere with normal industry. She must, moreover, have infinite tact and patience as well as the force of discipline, and above all the medical point of view, without which all can fail in lack of intelligent cooperation with the physician.

The therapeutic value of work is not the only necessity for occupation for the handicapped. The economic significance is a consideration of the utmost importance. The handicapped are not, as a rule, those acutely affected who pass through the hospitals after a severe illness to return to work with undiminished earning capacity. They are rather that group who, from birth, accident, or long illness, are subnormal. They are not entirely helpless, neither have they full mental or physical power.

The handicap, whatever form it may take, brings with it a certain mental state which renders the victim far more unfit to be a wage-earner than does the actual handicap itself. It is the consciousness of disadvantage and the willingness to blame the handicap for lack of ambition and for aversion to work. This mental state is inevitable if the handicapped are allowed to be idle and are not properly taught to help themselves. It is brought about in a number of ways. The ambitious have struggled with superhuman effort to compete with normal demands, in spite of serious handicaps. They have met defeat after defeat until discouragement has broken their spirit. Some cripples and a few of those incapacitated by industrial accident have become bitter and settle back upon the society which they think should bear their misfortune. The peculiar mental attitude of the handicapped is brought about in the vast majority of cases by the treatment of the patients in hospitals and institutions during a period of real helplessness. The ex-patient has lost his grip, learned the habit of idleness, and found that dependency is easier than struggling with impaired faculties. Although the hospital social worker is ready to help the misfit on his dismissal from the institution, she cannot make him keep his job if shiftlessness, moral weakness, the frequent accompaniment of physical lassitude, and habits of languor have undermined his character and ability. The social worker and those who come upon ex-patients of public institutions know these people present a distinct problem in their mental attitude. It is here that the real tragedy of the handicapped lies. Miss Cannon, head social worker in Massachusetts General Hospital, has said:

> "The long hours of idleness and tedium, especially in people who have not had the opportunity to develop resources within themselves, often result in the development of a habit of mind that does not readily adjust itself to consistent employment when the patient is again able to work. The hospital social worker sees these after-effects. To her we must look for the evidence that will make the hospitals more conscious of the necessity for eliminating this demoralizing by-product of medical treatment."

Another angle of the limitation of the ordinary hospital treatment comes from Mrs. Solenberger's records of homeless men applying to the Central District of the Chicago Bureau of Charities for help. She found that habits of idleness learned in hospitals, coupled with incomplete convalescence, are responsible for a large part of society's vagrant and difficult classes. Modern science has taught that vagrancy, delinquency, criminal tendencies, and inefficiency may all be due to physical reasons. The time to prevent these maladjustments is before habits have become fixed. Inasmuch as many of these cases pass through the

hospitals, the hospital holds the key to the future welfare of a large population.

The Industrial Commission of Wisconsin has an interesting report of case after case of men who have returned to self-support after sustaining the loss of eyes, hands, arms, legs, or feet, not only without lessened earning capacity, but actually with increased wages. The point is that these victims were adjusted to work before discouragement and the ravages of idleness had claimed their toll. From a multitude of sources, and from all who have worked with the handicapped, there comes but one thought: help at the critical time, help before ambition and character are undermined, before the fatal mental attitude is formed, and before self-respect and self-support may be supplanted by chronic dependency and parasitic living. Sooner or later those who have undergone these changes come back upon public or private charity. As a point of economy, it is cheaper to keep these patients through an adequate period of convalescence and to give them some form of industrial training than to support them in idleness the rest of their lives.

There is something wrong when a patient comes to a hospital and is dependent upon public support. If the patient is a victim of circumstances for which he is in no way responsible, it is short-sighted to turn him back upon those circumstances less able to cope with them after illness than before. It is better to return him completely cured and to have used the convalescing period as an opportunity to better prepare him for independence. If, on the other hand, he is dependent because of lack of ability, because of shiftless habits or mental, moral, or physical ignorance, there is no reason to believe he will be better upon his release, but rather the habit of idleness and dependency incurred in the hospital will have rendered his condition worse, unless an adequate convalescent period has not only built him up physically and morally, but also taught him something of hygiene and the orderly, industrious habits of work. This is the far-sighted economy. So closely does the Lakeside Hospital in Cleveland believe that work and physical conditions are interrelated that a record of the occupation of the patient with the material he has handled is kept along with his physical data. Thus the possible cause, together with the patient's possible return to industry, is continually before the doctor's mind in influencing his medical program. The Cincinnati General Hospital has an open-air school for children, where they are kept up in their studies. The teacher has been able to help the boy patients above school age, so that they have found better positions on their dismissal as a result of arithmetic in the hospital; a few have even passed civil service examinations. The girls above school age are given domestic science in a special laboratory kitchen. In many cases these girls are the housekeepers at home, as both parents are out at work. During convalescence they are taught home sanitation, care of children, and the value of food preparation. The hospital maintains workshops for adult men and women. Thus the transition from the hospital to the outside world is bridged by a system of occupations which begin with short periods and gradually increase until the patient is strong enough to meet normal conditions.

A discussion of the commercial side of the work of the handicapped would not be complete without the mention of the tremendous amount that can be saved in taxes when the labor of patients in public institutions is organized to its fullest productivity. The Gardner State Colony for the Insane employs its patients not only in the industries previously mentioned, but also in grading, excavating, road building, and the making of cement culverts. The products of the farm operated by patients amounted to $40,092.70 for one year. Dr. Kline of the Danvers State Hospital reports $1,400 a year saved on the one item of soap making by the patients, and another institution saved $5,000 in shoe repairing alone. Dr. Grout of Vermont State Hospital is quoted in "The Work of Our Hands," by Hall and Buck, as saying:

> "The work of the patients is profitable in every way: it lessens our per capita cost of maintenance very materially, probably 50 per cent."

Also Dr. Smith of New York State Central Islip Hospital says:

> "While the labor of our patients represents a definite saving in dollars and cents, we regard that as nothing when the beneficial effect on the mental and physical condition of the individual patient is taken into consideration. Benefit to the patient must be the first consideration, and first-class work the second."

Violence is diminished and every stroke of the hammer or every stitch taken, which does not overtax, is clear profit to the patient and community.

It seems reasonable to believe that the industries of several institutions could be united into one comprehensive scheme. This would mean an efficient cooperation and reciprocity, bringing the economy of large purchases and insurance of markets. Each institution could specialize in the work especially suited to the disabilities of its inmates, and produce work of such a practical type that a ready market is found in the other institutions. For instance, tuberculous patients can do carpentry and cabinet work, make dump

carts, office fittings, stools, benches, and furniture, provided the work is not of too heavy a type. There is no reason why the tuberculous men should not supply these articles and furnishings to other institutions, while the tuberculous women can do a lighter wicker work. The work should be first class and sold at market price, so that there is no interference with normal production. Part of the proceeds should go to the county for the maintenance of patients and shops and thereby decrease public support. The balance should go to the patient. If he is the bread-winner with a dependent family, his share should be forwarded to them. This relieves a congestion of charity somewhere else and gives relief through a just and dignified channel. If there is no such dependent family, his remuneration may be kept in a fund to be given to him at his dismissal. Such stimulation and equipment as this will not lead to physical and moral bankruptcy. Laundry work in a centralized laundry, sewing, mattress-making, and knitting machines are ideal occupations for the female insane, while the manufacture of concrete bricks, printing of public matter on presses, manufacture of soap from the waste fats of all the institutions, together with ground and sidewalk work, are excellently suited to the men. Mending, marking of linen, helping with hospital supplies, chair caning, and so forth, could be accomplished with limited equipment during convalescence in a general hospital. The actual industries could be varied to suit local needs and equipment, but their organization into a comprehensive plan is a sound economic procedure, and the employing of an expert, trained in the new science of directing industrial work for the handicapped, tends to increase the value of the medical equipment.

Work covering the variety of types necessary for a large number of different disabilities resolves itself into three main classes: remedial, alleviating, and temporary. Work among the hopeful cases of tuberculosis and insanity should be remedial in character. It should be considered, first, for its therapeutic value; second, for its preparation of the patient for a future industry; third, for its economy to the institution. Work among the chronic insane and incurables should be alleviating, and may be considered primarily from the standpoint of saving to the institution, provided it is not at the exploitation of the patient. Temporary work is for those whose convalescence is so short, as in typhoid, that a remedial program is not allowed. Neither is the occupation merely alleviating. It is valuable rather as regulated activity, and may be considered equally for its benefit to the patient and its economy to the institution. There is in the handicapped a fund of physical strength and mental energy which no community can afford to waste.

The first duty of any society is toward prevention;[1] the prevention of the handicap which produces those dependents who eventually become public charges in institutions is of the utmost importance. It is indeed shortsighted to build more institutions and elaborate equipment to accommodate these classes, when safety measures, eugenic laws, prison reforms, and segregation of the mental and moral defects are the only effective methods of preventing multiplication of the handicapped. Once these classes exist, however, society must learn that the best medical treatment and care is the cheapest in the end; that it costs less to train them to help themselves than to support them, and that the health and vitality of any community rests upon the adequate treatment of its subnormal.

The Jubilee of the New Hospital for Women

This London hospital celebrated its fiftieth anniversary last December. At the meeting, presided over by Lady Minto and attended by many prominent men and women of London, a sympathetic message of Queen Alexandra was read. Among the guests was Queen Amelie of Portugal.

The New Hospital for Women owes its existence and success to a few energetic women. In 1866 Dr. Elisabeth Garret founded a dispensary for women and children on Seymour Place. In 1870 she was joined by Miss Morgan, a graduate of Zurich University. In 1872 they opened a small hospital with 10 beds over the dispensary and named it the New Hospital for Women. In 1875 the beds were increased to 25, and Drs. Mary Scharlieb, Julia Cock, and Jane Walker became members of the medical staff. The foundation stone of the present hospital on Easton road was laid by the Princess of Wales in 1889, and the new hospital was opened in 1890 with 40 beds. In 1911 a new wing was added, increasing the number of beds to 71. In 1913 a country annex of 20 beds at New Barnet was established, to which patients after operation or acute illness are removed as soon as practicable. Funds are now collected to enlarge the hospital by 50 more beds. This history of the New Hospital for Women appears in a recent number of the London *Lancet*.

I think it is a very common error among the well to think that "with a little more self-control" the sick might, if they choose, "dismiss painful thoughts" which "aggravate their disease," etc. Believe me, almost any sick person, who behaves decently well, exercises more self-control every moment of his day than you will ever know till you are sick yourself. Almost every step that crosses his room is painful to him; almost every thought that crosses his brain is painful to him; and if he can speak without being savage, and look without being unpleasant, he is exercising self-control.—Florence Nightingale.

[1]Edward T. Devine says that the majority of cases can be prevented. As estimated by Bushnell and Smith, there are 3,000,000 dependents in the United States, and the expense of their maintenance is $200,000,000.

OCCUPATIONAL THERAPY IN NEW YORK CITY INSTITUTIONS

Atmosphere of Wards Changed From Gloom to Cheerfulness by Introduction of Occupations—Some Industries Established on a Commercial Basis—Need for Rooms Convenient to Wards in Which Occupations May Be Carried On

By SUSAN C. JOHNSON, Director of Occupations, Department of Public Charities, New York City

A COMMITTEE on occupation was appointed by the commissioner of public charities, March, 1916, to work in cooperation with the New York City visiting committee of the State Charities Aid Association. This committee has undertaken to demonstrate that the mental and physical condition of the patients and inmates of the public hospitals and homes (almshouses) will be improved, that they can contribute toward their self-support, and that they will be morally uplifted if they are provided with occupation suited to their capacity. On August 1, 1916, a director was appointed, who spent some time in surveying the field and laying plans for the work, which was actively commenced with the appointment of a teacher of handicrafts to the Neurological Hospital on Blackwell's Island, in October, 1916. Since then from 120 to 130 cases have been surveyed; 61 of the patients are now occupied, nearly all producing articles of intrinsic value; 35 or 40 patients seem incapable of producing anything of commercial value; theirs would seem to be cases for purely diversional occupation. Unfortunately, the remaining 24 or 29 patients are not being reached for lack of teachers.

During the period over which the work has extended, the atmosphere of the wards has been largely changed from one of gloom and depression to one of cheerfulness and comparative happiness. Individuals who were subject to daily spells of hysteria have been entirely free from such attacks since habits of activity have been established. Others who were formerly morose and indifferent now take not only an active interest in their own work but also a friendly one in that of those about them. Whereas patients at first refused to consider occupation, it is now one of the teacher's greatest trials that she must turn a deaf ear to those who complain of being unemployed.

Visitors who knew these wards as they were six months ago speak of the change as a wonderful demonstration of what occupation may do to mental depression.

Numerous occupations have been employed to meet various physical and mental disabilities. It has always been the aim to produce something which in itself is worth while and so maintain a balance between the pathologic and the economic sides of the work. Almost without exception this has been accomplished through thoughtful selection of materials and designs and through careful supervision of the patients' efforts.

One of the industries which has been established upon a commercial basis is that of the manufacture of tennis nets. These nets have been pronounced acceptable by several New York business houses. It has been proved that comparatively few of our ward patients have the proper capacity for making nets. An experiment with tuberculous patients seems to indicate that the occupation will be a suitable one for such persons.

Two other centers of work have recently been established at one of the general hospitals on Blackwell's Island, as well as one for the aged women at City Home. At one of the former, trade instruction is provided for a group of girls with specific history. The other center includes the convalescent sick and a group of crippled children. At the City Home the women have knitted a large number of socks and have made surgical dressings as well as rugs and articles of clothing. In all, there are now six centers where work is being carried on under the committee. The articles made are disposed of at private sale and a portion of the profits returned to the patient or inmate.

All of the work is now being financed by the committee on occupation, but it is probable that it will be incorporated into one or another of the municipal departments when once demonstrated as being worth while.

It is obvious that not only is the time and strength of a teacher conserved if the patients can be grouped together for instruction, but also that the tedious hours of convalescence or chronic illness are lightened by a change from the ward to the occupation room, especially if this is made attractive and homelike.

The experience of having established occupations in a hospital built and operated under the old order of things, with no workrooms provided and no conveniences for carrying on work, has been convincing evidence that modern hospitals should be built with rooms for occupations convenient to the wards. Also, provision for dry

sterilization is important, as the attractiveness of the articles made will often be destroyed by immersion or a steam process.

If one were skeptical of the desirability of having a workroom as an established part of the hospital, he need only visit the little back porch room recently constructed on the men's ward at the Neurological Hospital and contrast the group of cheerful, busy workers there with the dull, apathetic faces of the patients inside the ward. Also any proposal that one of the men in the shop give up his place would prove how he values the privilege of coming there.

The experiment under the committee, even though of short duration, is only one more demonstration that the work cure has an important place in healing mental and nervous disorders, that it may cheer and hearten the aged who are unhappy in idleness, and that it has considerable economic value.

OCCUPATIONAL THERAPY AT MUIRDALE

Fund Set Apart for Recreation Among Patients—Arts and Crafts, Carpentry, Cabinet-Making, Photography, Etc., Taught Convalescent Patients

By RACHEL HORNER, Director Industrial and Recreation Department, Muirdale Sanatorium, Wauwatosa, Wis.

LAST Christmas-tide an Englishwoman, whose husband had suffered for many years with tuberculosis and who had watched over and nursed him herself during each sad stage of the disease until he went on the last journey, expressed a wish to be taken out to Muirdale. She wanted to see what was being done in these days in the treatment of tuberculosis. After seeing all that there was to see, she came to the workshops. There the ambulant cases among the patients were busily engaged in preparing a dozen or more large trees to be decorated for the Christmas festivities. All about was bustle and merriment.

"Say, this tree's the prettiest—it oughta go to the kids."

"Don't you forgit us guys in the cottage! We gotta have trees, too!"

"Who's gonna be Santy? Possell, you're nice and fat, you'd make a good one!" And thus it went.

When each patient had gone for his rest hour at eleven o'clock, the visitor said, "If you only knew what this work is going to mean to these men! It is not only a great blessing to those who can get well, but to those who do not it will stand as a benediction over a few hours of freedom from the thoughts of hopeless suffering."

This workshop was opened up at Muirdale in January, 1916. Muirdale Sanatorium, being well known because of the excellence of its equipment and management, needs very little introduction to the medical world. It lies one mile west of Wauwatosa, Wis. The superintendent of Muirdale is Dr. Glenford L. Bellis.

In November, 1915, when Muirdale was first opened, Dr. Hoyt E. Dearholt, secretary of the Wisconsin Antituberculosis Association, announced that a sum of money amounting to $1,000, to be known as the Foster Bequest Fund for Recreational Work among the patients, had been given to Muirdale. At the suggestion of Dr. Bellis a department known as the Industrial Recreation Department was organized for the staff as an aid in the method of treatment for tuberculosis at Muirdale. By the following January, through the cooperation and direction of Dr. Bellis and the Milwaukee County Board of Administration, the work of this department was well under way, and in fifteen months following it has proved to be a success in every way as well as a necessity in the treatment of the patients.

When the physicians in charge find that a patient comes to such a point in his treatment that he is fit for and needs light exercise, he is sent to the workshops. The time for a beginner is usually limited to half an hour each day until he improves. Careful watch is kept over the patient. If he runs a high temperature or if his condition be otherwise affected he is dropped from exercise and made to rest until an improvement of his condition warrants another trial. This state of affairs seldom happens, however. Nine times out of ten the patient improves when given light exercise, and improves so rapidly that in a few weeks he is able to perform three or four hours of good, stiff manual labor. After a patient has performed such a schedule of exercise for from six or ten weeks to several months, if examination shows that his physical condition warrants it, he is discharged as a cured or arrested case, with muscles sufficiently hardened to enable him to resume work for his livelihood without risking an early breakdown due to overexertion.

Out of a total number of about 270 patients at Muirdale, a weekly number, varying from 36 to 60, require graded exercise. This number in-

cludes men of all ages, women, and the older children.

The workshops are located in the basement of the administration building and hospital and occupy the entire east wing. Eight large, well-lighted and well-ventilated rooms are included in this wing. This gives the patients on exercise plenty of room where they run no risk of being overcrowded.

The workshops are opened for the patients from 9 to 11 a. m. and 3 to 4:45 p. m. every day excepting Saturdays and Sundays. The courses of instruction offered are arts and crafts, carpentry and cabinetmaking, manual training, basketry, and photography. One room is devoted to tailoring and shoe cobbling services. There is one instructor who supervises the whole department and teaches beginners. As the patients become skilled they act as foremen over the different squads.

It must be borne in mind that the medical point of view is never forgotten in the workshops. Even so, the workshops at Muirdale are making a good showing as a business success. The expenditures for all equipment and initial materials were $837.16; the total sales were $466.68; the total profits were $303.84. These facts make the future outlook of this work very hopeful. As they now stand, the encouraging results not only help the patient to take his mind from his work, but they go far towards making the plan of profit-sharing for the patients a possibility of the very near future.

There are many serious as well as amusing problems which have to be considered at Muirdale in connection with the workshops. The patients come from all social classes and are of many nationalities. One morning, when the squad of toy-makers reported for work, they found that some one had broken in and stolen all of their finished work. Eighteen men or so immediately ran to the instructor and in as many different languages, with much wild gesticulation, tried to tell about the theft. The culprit proved to be an angelic-looking little Italian boy—also a patient—who seemed to know nothing at all about the stolen toys until they were found hidden under his mattress. He had taken them that very morning. He was going home that day and wanted them for his brothers and sisters.

The patients take very readily to the idea of the workshop. Those who seem to be the laziest and most unwilling at first invariably turn out to be the most faithful and industrious before they leave. So far it has been the rule of the workshop to make nothing unless it has been ordered. This insures the sale of nearly every article made, providing it be made well enough, and does away with the common danger of loss through being overstocked with useless products. The patients at Muirdale have made tables, shelves, bird houses, boxes, toys, baskets, lamps, jewelry, copper bowls, silver napkin-rings, paper-knives, etc., as well as models of buildings for exhibition purposes and woodcuts for the printing of posters. When an order is taken no specified time is mentioned for the delivery of the goods. The customer is told that this is impossible, owing to many accidents and delays that are bound to occur because of the handicapped condition of the patients, but an approximate time is given, and so far everyone has seemed to understand and has appeared to be satisfied with the arrangement.

In order to be a continued success, the idea of the workshop seems to need to be fortified by the slogan of "Slowly but surely." The public must be educated to understand and trust the knowledge that articles made by patients are all thoroughly sterilized and are perfectly safe for anyone to handle without risk of infection. Then instructors will feel that to teach convalescent patients of tuberculosis is a very worthy, inspiring, and fairly profitable occupation. The idea needs to be advertised through exhibits (Muirdale is using this method right along), through a friendly push from all those interested, and, finally, through the hearty and sincere cooperation of every intelligent citizen.

The Discovery of Addison's Disease

Thomas Addison, sprung from the English yeomanry of Cumberland, physician, teacher, student, and diagnostic genius, carried on a series of observations for years before he found that tuberculosis was often at the root of the disease which now bears his name. Addison's disease, generally caused by tuberculosis of those little organs which lie just above the kidneys, is marked by extreme prostration, bloodlessness, a marked bronzing of the skin, and death. There may be other symptoms, but the weakness, anemia, and skin pigmentation are the most prominent.

The dogged determination which marked Addison's attempt to track a disease to its original source is the ruling spirit of twentieth century medicine. No half-discovered fact will satisfy the modern investigator. The ultimate object is sought in its entirety by an industry of search, a correlation of scientifically deducted facts and a concentration of effort. Addison was born in April, 1793, and died of brain disease, June 29, 1860.—Health News, U. S. Pub. Health Service.

A patient can just as much move his leg when it is fractured as change his thoughts when no external help from variety is given him. This is, indeed, one of the main sufferings of sickness; just as the fixed posture is one of the main sufferings of the broken limb.—Florence Nightingale, "Notes on Nursing."

OCCUPATIONAL THERAPY IN DEMENTIA PRECOX

Music, Marching, and Dancing Surpass All Other Means of Arousing Patients' Interest at First—Destructiveness and Untidiness Changed to Tidiness and Tractability by Music, Games, and Work

By ETTABEL MABIE, R. N., Occupation and Recreation Director Napa State Hospital, Napa, Cal.

OCCUPATIONAL therapy has a wide scope and is destined to be one of the leading agents in the care of the insane. It is not only destined to be, but in many hospitals is, now an established factor.

Occupational therapy is training the attention, focusing the wandering impulses on some definite object. With this in mind, the work is planned accordingly, whether it be work or play. The appeal is made to the imagination by giving the patients both familiar and unfamiliar tasks.

Fig. 1. Setting-up exercises for dementia precox patients.

The dementia precox patients are first appealed to through music, simple marching, and dancing. As soon as the patient shows any interest whatsoever in the music, she is taught time and rhythm by being led around to music, one beat to the measure, which is gradually increased to three beats to the measure. We have found this way of brightening them up has surpassed all our other efforts. These patients are then taken and their reeducation in the work class is begun. For instance:

A patient who for nine years was in restraint most of the time and who sat and pounded upon the floor with her heels until the boards were worn through was brought to listen to the music by two nurses. After listening a few minutes, she said, "I like the music!" the first intelligent thing she had said for years. She was brought several times to listen to the music, then to the dancing class, and was taught first to march, then to dance. Within two months she was changed from a destructive, untidy patient to a tidy, tractable one who takes an interest in her dress, dancing, and class work.

In this hospital the patients, with the exception of those confined to the bed, are out of doors much of the time. Those who can be trusted and are physically able are working on the farm and in the various shops. The idle patients in the yards are appealed to and their interest aroused by games, such as bean-bag games, rope quoits, relay races, shuffleboard, etc., the schedule being varied from day to day.

It has been found beneficial from time to time to give large afternoon parties, entertaining from two to three hundred patients. The programs are composed of readings, old-fashioned songs in chorus, and dancing. The refreshments are served cafeteria style. Smaller parties and picnics are given often for the class-workers.

The workrooms are made bright, attractive and

Fig. 2. Dementia precox patients playing a game of bean-bags.

cheerful, the furnishings blending harmoniously with the walls and hangings, which are a rich tan color. Various kinds of work are carried on in different rooms, which are fitted up with suitable equipment. We have classes in rug and lace weaving, basketry, copper and brass, tooled leather, wood carving, pottery, and needlework in all its branches.

Special mention should be made of the benefit derived by our dementia precox patients from clay work.

Our aim for the dementia precox patients is to alleviate and check their deterioration and, where possible, to make them comfortable, useful, and happy.

MAKING DEPENDENTS SELF-SUPPORTING

How the Associated Jewish Charities and the Jewish Aid Society Are Providing Opportunity for the Handicapped to Support Themselves

BY FRANCES TAUSSIG, Superintendent of the Relief Department, Jewish Aid Society.

Some six years ago the need of some provision for the permanently handicapped in our midst struck us forcibly. We reported to the Associated Jewish Charities that even ample funds for relief would not solve this problem—that we needed some machinery for making the families of these handicapped men self-supporting, rather than funds for keeping them dependent. After due investigation, the Associated established in 1911 what became known as the Self-Support Fund, for the establishment in business of these families. Five years' trial of this plan has proved most conclusively that the problem of the handicapped is not solved by supporting them in idleness. The business establishments of the Self-Support Fund have meant work for the incapacitated persons as well as for their families, but they have meant the opportunity of work under suitable conditions, without the strain of work in ordinary industry.

The self-support plan can, of course, reach only limited numbers. Constant progress has been made in its administration, and with the active cooperation of the membership of the Young Men's Associated Jewish Charities, even better, wider reaching results will be made possible. But what of the large number whom the Self-Support Fund cannot reach? What of the men, women, and children unfit for business, whom illness has condemned to lifelong idleness and dependency?

Until prosperity so suddenly struck us a year ago, we had been for years so close to destitution caused by unemployment, by acute illness, by hard times altogether, that all of our energies were bent on relieving this misery. When we realized that for the first time in our history things were actually taking a turn for the better, that we were for a time at least to be free from the care of the able-bodied unemployed, we realized with more and more force, from month to month, that our task for the year lay in this problem of the incapacitated.

Accordingly, an informal investigation was begun by members of our board of directors of the provision being made in other communities in occupations for the handicapped. It was found that the United Hebrew Charities of New York and the Social Service Department of the Free Synagogue, acting as a joint committee on tuberculosis, had made a splendid beginning in a model factory in the Bronx. This factory was established in June, 1915, as a shop for the employment of persons in an arrested condition of tuberculosis. Low-priced men's shirts were first made, then middy blouses, and now women's coats and dresses have been added to the product of the shop, which is being sold to business houses in competition with other factories. Patients work under the supervision of physicians and nurses, and are employed only as many hours of the day as the physician deems advisable. In most cases normal working hours are gradually resumed, and the earnings of workers now range from $10 to $23 weekly. Sanitary conditions in the shop are ideal, and all products are sterilized before being put into the market. The nurse on the premises watches the patients to prevent overworking, and is responsible for the proper hygienic condition of the shop and the sanitary conduct of the work. Adequate lunches are provided for patients.

An attempt is now being made to extend the work of this factory so that cardiac or heart patients may also be employed. No other specifically Jewish attempt of this sort is known of. However, in New York, under the auspices of the Burke Foundation, much work has been done with cardiac patients, and in the Sharonware Workshop, heart patients are being employed at the making of concrete garden furniture. This work has been found entirely suitable for these patients, and the products of the shop are being sold in the competitive market.

Other work has been undertaken by the New York Association for Improving the Condition of the Poor, in its old men's workshop, where toys are made by old men who are unable to get regular employment.

In Chicago, the Illinois Mental Hygiene Society has maintained industrial classes for several years, in which mental patients, persons released from hospitals for insane, and some whose condition has not warranted sending them there, are kept occupied at the making of rugs, baskets, toys, children's furniture, and numerous other articles. A high degree of excellence has been maintained in this work, and the products of the shop command good prices.

In our own organization we discovered about a year ago that there was an increase in the number of families becoming dependent upon us because blindness was preventing the wage earner from supporting his family. The state maintains a Department of Instruction and Visitation to Adult Blind, and through this department instructors are sent to the homes of blind persons, to teach, whenever possible, the occupations open to blind people. These include broom making, piano tuning, and basketry. The state's appropriation for this work is small, and we were frequently unable to secure a teacher, and on account of deficiency in equipment, the result secured from the work of the teacher was inadequate. We therefore decided to create a center for the teaching of broom making to the blind in our building, and on April 1, 1916, a teacher was sent by the state to give instruction on these premises.

The teacher remained with us until the end of June, after which the men continued to work alone. They have, in fact, themselves taught two new recruits who have been taken in since that time. The brooms, at first somewhat crude and poorly finished, have improved from time to time until we now manufacture a very respectable article. The Joint Committee on Work for the Blind of the various Jewish women's clubs have undertaken to market our product, with the result that we are now doing a flourish-

ing broom business, and with the further result that these men, whose families at the beginning of this work had been entirely dependent, have earned by actual work almost $500, which they would have otherwise had to receive in relief. One of these men, who had been placed in the infirmary at Oak Forest to spend the rest of his days in idleness, dependent upon the public, is now practically self-supporting. The apparent success of this small experiment, and the beginning in occupational work for convalescents made at Michael Reese Hospital last winter, assured us that it was possible to develop some practical industrial work for the handicapped. Accordingly, the experimental classes were organized.

The time is still too short to justify us in prophesying success for this venture. We know now only that some fourteen persons with a variety of diseases and handicaps, of which old age is not the least, have been given occupation under pleasant surroundings, and have been kept from idleness, which is the most demoralizing of all states.

Incapacity for work has come to be a relative term with us. A total incapacity should not exist with the development of instruction in occupations adapted to the physical condition and the mental capacity of a patient. Our blind men are receiving wages instead of a county pension, and we are awaiting the time when the greater number of this group will also receive wages, temporarily perhaps in experimental classes and later in normal industry, for work in which they have been reeducated.

During the last few years the fact has been fully recognized that the Jewish adult immigrant suffers in his attempt to adjust himself to American conditions by lack of vocational training. Many of the occupations in which these immigrants find themselves in the course of a few years are accidental. Many of the men who travel into tailor shops make the sort of tailors who are the first to be laid off during the dull season and the last to be taken back when the shop becomes busy. These maladjustments are found in only too many of the tuberculosis cases at Winfield, of the chronic heart cases which appear at regular intervals at Michael Reese Hospital, and of the incapacitated of every sort that crowd the West Side Dispensary. If, during the period of treatment and of convalescence of these sick persons, their relation to our industrial situation could be studied, and if that protracted time of treatment or of convalescence could be used as a period of reeducation, we would without doubt accomplish some constructive results. Instead of devoting ourselves to the raising of funds for the permanent care of the families of such incapacitated persons, why not devote our energies to the raising of funds and the providing of the means whereby they can be returned to a state of at least partial independence?

Perhaps through this work something could be accomplished with the individual who is commonly called by his better-to-do neighbors a *Schlemihl*. While not actually physically incapacitated, he finds such tremendous difficulty in adjusting himself, that he seldom if ever succeeds. As an instance, let us cite the accomplishments of our sewing shop, which we call the Cooperative Workshop. Two groups of women are reached through this activity; one, those who have never learned to sew even enough to supply the simple needs of their own children; second, those who can sew and perhaps have been taught in our classes, but who by reason of lack of skill and dexterity, or lack of speed, or their inability to leave their homes and children for long hours, are not able to find places in regular shops. Through our shop these women, all formerly entirely dependent, have been given the opportunity to support themselves in part by working short hours in pleasant, healthful surroundings, with adequate pay.

A most effective bit of cooperation has been carried out here. The shop has secured orders and made garments for the Home for Jewish Friendless, Orphans' Home, Michael Reese Hospital, Hull House, and the Needlework Guild of America, and supplies the relief organizations of the Associated Jewish Charities with all of the children's dresses, boys' blouses, and other articles of this sort which are needed in their work.

This time of comparative prosperity is the one in which, if ever, these problems must be worked out. The end of this fiscal year will show that the relief department, as well as many others, has decreased considerably the financial burden which they have laid on the Associated. The statistical reports of all of the departments to whom sick people come for medical or other assistance will show that the most serious burden on those departments is that of the physically handicapped. Unemployment of able-bodied persons is practically unknown at the present time. The B'nai B'rith Employment Bureau, with the most sincere efforts, is not able to place this great group of handicapped people with their present equipment for work. The provision of industrial training for persons of this type will undoubtedly mean an ultimate saving to the Jewish community of money spent in relief, in medical care, and in service, and a tremendous gain in every respect to the persons who, instead of demanding permanent relief, are equipped for self-support.—Associated Bulletin.

ANOTHER WAR PROGRAM

Suggestions Offered by the Cincinnati Municipal Tuberculosis Committee for Prevention of War-Time Tuberculosis

The Cincinnati Municipal Tuberculosis Committee, an advisory committee to the Anti-Tuberculosis League, on which are represented a number of municipal departments and civic organizations, has recently formulated a war program, based on the great increase of tuberculosis among the soldiers and civilian population of the countries now at war. This program, which has been submitted to the National Association for the Study and Prevention of Tuberculosis, embraces the following points:

Additional expert tuberculosis diagnosticians to be employed in connection with every recruiting office and for periodical examination of enlisted men.

Provision for recording information concerning men rejected for service in the U. S. Army or the militia because of tuberculosis, in order that these patients may be followed up and given proper care.

Establishment of federal camps for the cure of tuberculous soldiers.

Maintenance of standards of hours and wages for those engaged in making supplies for the government and in other occupations, such standards not to be lowered under pressure of war conditions.

Drafting of every employable patient and available employee into gardening work.

Establishment of Federal and state farm colonies for vagrant consumptives.

Tuberculosis work, in sanatoriums, in dispensaries, and in the field, to be included in the training of physicians and nurses.

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The War and the Hospital World

We have refrained up to this time from making any serious comment on the war, for the following reasons:

1. The daily papers are in very much better position to get the news about the war from the various sources of the news than are any monthly publications.

2. It has seemed to us that the less said, in the way of advice or editorial comment, on the war at this time, the better, because the business of preparing for hostilities is in excellent hands and is being pushed as rapidly as conditions will permit. Any advice that THE MODERN HOSPITAL could give would necessarily be based upon incomplete information and might be misleading both to those who are charged with the grave responsibility of the crisis and to our readers who have been accustomed to look for leadership to THE MODERN HOSPITAL.

3. It has seemed to us that there has already been a tendency toward a harmful hysteria in some quarters, incident to the war. While we feel that everything should be done that will profitably stir the public up to an appreciation of the gravity of the situation, and while we should even in our own minds work up an enthusiasm for the war, yet there is serious danger that this enthusiasm and excitement may become an actual hysteria and do very much more harm than good.

4. It has seemed to us that the time has come for work and not for talk or verbose comment.

THE MODERN HOSPITAL has given its best thought and best efforts to help those in authority decide some of the momentous questions that have to do with the health of the civic population and of the proposed new armies, with the preparations for the supplying of our army and navy on a war footing, and with the furnishing of supplies to the allies, and especially to our civil hospitals—and let us here give assurance to our readers that the interests of our civil hospitals are not to be lost sight of and that first of all their interests, their supplies, are to be thought about.

Briefly, the things already done concerning the war which are of special interest to hospital people are as follows:

The President, by advice of the presidents of a large number of civic and health and medical organizations, appointed Dr. Franklin H. Martin, of Chicago, as one of seven members of the advisory board of the Council of National Defense, and to Dr. Martin were assigned the medical, hospital, and health activities—not only those concerned with the war itself, but also those which concern the civilian population of this country. With a view to determining just exactly what should be done and how it should be done, the Council of Defense appointed a committee composed of Dr. Winford Smith, Dr. Washburn, Dr. Babcock, and Dr. Caldwell, of Pittsburgh, to standardize hospital and medical supplies for the war. While this scheme of standardization of supplies was in the making, Dr. F. F. Simpson, who had been made an active director of the medical and hospital bureau, summoned to Washington the large producers of staple hospital and medical products. During these conferences an immense amount of invaluable information was collected, and with this information as a basis the future activities could be rather easily mapped out. During the past three years the manufacturers of this country have been furnishing adequate supplies for the civil hospitals and the medical profession for our own army on a peace footing and for the war-time needs of our present allies, especially the French and English; now comes the sudden need to speed up the production of supplies sufficient to keep supplied continuously the vast army of from one to two millions of men that are in prospect.

Through the Council of Defense and its advisory board vast quantities of supplies have been bought and far greater quantities have been tentatively provided for; literally hundreds of

manufacturers have been induced to add to their facilities for production of those things that are to be especially needed, and there is a feeling in well-informed circles that, whatever else happens, the producers of medical and hospital supplies can be counted on to do more than their share.

While the work of preparation for the war, from the standpoint of supplies, is in excellent shape, we would like to urge that the civil hospitals do their part toward simplifying the situation by getting in the orders for the supplies that they are going to need in the next few months at least, so that the supply houses and manufacturers can take these orders into account. Those hospitals that do this may feel assured that their wants are going to be taken care of and those that fail to do so are likely to be greatly embarrassed.

While the above-mentioned features of preparedness have been under way, the hospitals of the country have been mobilized so that without doubt our hospital world is to give a good account of itself in its part of the conduct of the war. As a part of the great centralized speeding up of preparations for the war, it was early arranged that the American Red Cross was to be charged with the hospital activities, and under the direction of Col. Jefferson R. Kean, M. C., U. S. Army, a vast number of hospital units have been created in all parts of the country. Some of these units have been on a basis of the regulation base hospital consisting of 196 in the personnel, 25 of whom are physicians, surgeons, and specialists. As this editorial is being written six of these units have been called for to go to the front in France for immediate service, and by the time this number of THE MODERN HOSPITAL is in the hands of its subscribers all of these units will probably have landed on the western battlefront and will be at work.

Smaller units have also been created, some of them made up of groups of physicians only, these groups to meet the requirement of the war department for the services of approximately 5,000 medical men on the various battlefronts of Europe; all these physicians are being sent over as rapidly as transportation and their training will permit.

The medical profession has responded splendidly to the call for military service; while the figures are changing daily it is quite certain that already more than ten thousand medical men have applied for commissions in the Medical Officers' Reserve Corps and are being commissioned as rapidly as the congested Washington bureaus can make out commissions. Quietly and without any ostentation these medical men are receiving training, some of them in lecture courses given in the evening by officers from the regular medical service of the army, and some of them by study of the army medical manual among themselves. A good many have already been called into active service, some for the examination of recruits, many for the examination of medical men candidates for commissions in the service, and quite a number have been sent out to army posts at various parts of the country in order to relieve medical men from the regular service who are otherwise needed.

Taking the situation as a whole, it may be safely said that when the President shows up with his army of from one million to two millions of men he will find that the producers of hospital supplies have done their part to equip this vast force, and that the medical profession has done its part to provide professional service.

A Special Number for the Small Hospital

The Occupational Therapy Number this month is one of a series of special issues, each devoted principally to some one phase or department of institutional activity. For instance, one number is to take up the hospital as a public health center; another is to be devoted to tuberculosis sanatoriums; and still another will contain much interesting material on the institutional care of the epileptic and feeble-minded. The subject of one early issue is to be the needs and interests of the small hospital.

As our readers know, this journal has always taken a very special and lively interest in the problems of the small hospital. Most of our issues are "small hospital numbers" in some degree. We want, however, to have a field day for the small hospital, and to this end we ask for the cooperation of our readers who are in small institutions—private hospitals, community hospitals, small municipal or county hospitals, or small hospitals of any other class. Please let us hear from you.

What have you done over which you have reason to feel well satisfied? Some of you have accomplished a big thing in securing a hospital for your community; others may have an interesting story to tell in connection with your methods of financing; others, again, can tell of ingenious ways used to adapt an old building to hospital uses. What especially good and novel features are embodied in your building plans? What are you doing to create an interest in your hospital among the community? How do you meet the nursing problem? What about the question of household help? What is the best way of arranging the program of work and distributing duties? What have been your most successful economies? Write as much or as little as you like—from fif-

teen words to fifteen hundred—on any of these subjects or any other that seems to you interesting and worth while. Or, if you haven't time to write for publication, won't you let us know some of your troubles and problems that you would like solved? Then let us see if we can't find someone who has solved them.

Some of you may be too devoted to your duties to take time to write. Let us tell you confidentially that such devotion is misplaced. Get far enough away from your work to see it with an outsider's eye, write about the most instructive and interesting feature that you find in it, and see if you don't come back to it with a broadened point of view and renewed vigor that well repays you for your little excursion. Incidentally, we could tell (but we must not, even in this little private confidential chat) of superintendents whose writing for THE MODERN HOSPITAL has proved the open door to larger opportunities and broader fields of success. A word to the wise—let us hear from you!

Special Features for July

Among the features of particular interest next month will be an article on the new Denver Children's Hospital, an article on the Henry W. Putnam Memorial Hospital, Bennington, Vt., and one on the James J. Gray Clinic, Atlanta, Ga. A particularly timely paper is one by Miss Catherine A. McGrath, chief surgical supervisor in Grace Hospital, Detroit, on economical methods of cutting surgical gauze for dressings and bandages. The war makes these methods of special interest, both because of the increased need for economy, and because a larger number of inexperienced workers are sure to have to prepare surgical dressings.

The July issue will be of particular interest to executives of institutions for the feeble-minded and epileptic. It will contain articles by Dr. W. T. Shanahan, superintendent of Craig Colony, Sonyea, N. Y.; Dr. J. N. Murdoch, superintendent of the State Institution for Feeble-Minded of Western Pennsylvania, Polk, Pa.; Dr. W. J. G. Dawson, superintendent of the Sonoma State Home for Feeble-Minded and Epileptics, Eldridge, Cal.; Dr. Everett Flood, superintendent of Monson State Hospital, Palmer, Mass.; and Dr. R. P. C. Wilson, superintendent of the Missouri State Colony for Feeble-Minded and Epileptic at Marshall; also articles on the industrial colonies for the feeble-minded at Rome, N. Y., and the industrial training at the Menantico and Burlington County colonies in New Jersey.

Dr. Hornsby's important series of articles on the standardization of hospitals will be continued, as will Mr. Street's series on foods. Other regular features will appear as usual.

Standardization Articles Postponed—Other Last-Minute Notations

Unfortunately, just as we are beginning our most interesting series of articles on standardization, the war crisis interferes. As president of the Board of Medical Examiners, Central Department of the Army, Dr. Hornsby has had to devote every moment of his time to active service in the examination of medical officers to go to the front. Just as soon as conditions permit, the series of articles on standardization, on which so much work has already been done, will be continued.

A number of excellent contributions on occupational therapy and occupations for the handicapped have been received too late for use in this issue. Several phases of the subject, accordingly, will be taken up later. Next month, for instance, we shall publish something on the industrial training of the feeble-minded. Limitations of space have rendered it necessary also to defer publication of several articles on occupations for the blind.

The Occupational Therapy Number

It is with no little satisfaction that we present this month a symposium of articles by men and women prominent in working out the problems of occupational therapy and occupations for the handicapped. This is the first time, so far as we are aware, that the subject has received such prominence in the pages of any publication. The formation of the National Society for the Promotion of Occupational Therapy, mentioned in the May issue (p. 356), and the publication of the Occupational Therapy Number of THE MODERN HOSPITAL seem to constitute recognition that the movement has reached such a stage that it can no longer be ignored in the reckoning of therapeutic advance.

As Dr. Dunton shows in his paper on the history of occupational therapy, published in this issue, it is not a novel idea that work—occupation for the hand and mind—may be beneficial to the sick. It has been said that "a man to be happy must have something to work for, something to hope for, and something to love." Dr. Mary Lawson Neff has pointed out that the unoccupied institutional patient has none of these; he "is suddenly and effectively cut off from the motives that actually make life." On some conditions, such as insanity, this abnormal environment may so react as to intensify the abnormal

condition. Certain other conditions, such as tuberculosis, may be alleviated or cured, yet, in the process, the patient may be so "institutionalized" as to be totally unfitted for taking up normal life again. Our problem, therefore, has two phases: One is to direct the patient's activities so that the occupation may help to cure his condition, or, at least, so that idleness may not intensify it. The other is to restore him to normal life as a normal unit of society, or as near that as may be. The second half of the problem has assumed large proportions with the increasing complexity of our industrial life, and the world crisis through which we are passing has given it a gravity and significance which can scarcely be overemphasized.

In the old days, when men and women plied their respective crafts by their own firesides, the swift, the strong, the skillful might do much, but the weak and the infirm were not thereby debarred from doing their little. The man who could make two pairs of shoes while another man was making one might earn twice as much as his less fortunate brother craftsman, yet the latter was not thereby put out of business; he could earn just as much as his skill and strength permitted. We have changed all that. Modern industrialism, like modern warfare, wants only those who can "stand the gaff," keep step in the line of march, and ask for no cosseting. Those who cannot meet these requirements are tossed on the industrial scrapheap as total dependents.

At least, until lately, such was the fate of those who, even though still able to work, could not meet modern industrial conditions. War, however, is teaching the nations of the world to starve their scrapheaps. In time of peace, we could ignore the appalling waste involved in the enforced idleness of the handicapped; but now waste means national ruin. When practically all hale and able-bodied men are wanted for military service, and, besides women, only the aged, the infirm, and the broken are left for the tasks of civil life, the use of handicapped workers and the careful adjustment to them of their tasks becomes a vital necessity. Europe has found and America is going to find that the employment of the handicapped is no mere fad or charitable whim, but a measure of self-preservation, dictated by the sternest and most gigantic urgency.

This issue, therefore, is dedicated to one of the greatest problems of modern times, and one which will not be neglected in future issues of THE MODERN HOSPITAL. What has been achieved as yet is scarcely more than a beginning, yet it is something that a beginning has been made.

M. K. CHAPIN.

Preparedness and Child Labor

We publish on another page an abstract of an article in the *Child Labor Bulletin* showing the encroachments of child labor on the educational opportunities of children in rural Kentucky. We believe that now, when national preparedness is the order of the day, is a most opportune time to call attention to the danger exemplified in these Kentucky conditions. What has child labor to do with national preparedness? Everything. There is no subject so vital to a sound program of national preparedness as the conservation of the future forces of the nation stored up in its children. England, we are told, is already wishing that she had not used her children so recklessly at the beginning of the war. America, unless she takes heed of England's experience, may find that she has been draining herself of her lifeblood by the employment of children to meet the need for more war-time workers. There are many very good arguments in favor of the movement to put children to work on farms and in gardens; but we must not lose sight of the vital necessities of the future while we are meeting a temporary national emergency. The National Child Labor Committee offers a plan, briefly described on another page of this issue, for organizing children to aid in the production of foodstuffs, and at the same time protecting them against overwork and general neglect. The plan was drawn up after conference with educational and agricultural authorities, and, it is to be hoped, will receive serious and careful consideration wherever the increased employment of children is under consideration. Copies of a leaflet explaining the plan may be obtained from the National Child Labor Committee, 105 East Twenty-second Street, New York City.

We physicians are prone to scoff at the habit of taking a drug for a symptom like headache, without looking deeper to find the underlying disorder of which this headache is a symptom. We point out very truly that only by finding and removing the cause of this headache—an eye-strain, perhaps, or a stomach trouble—can its recurrence be prevented and other disorders nipped in the bud. This is as it should be, but we need to carry the same habit further. Why should we not push on, and find out why this patient has the stomach trouble? The headache is only a symptom of stomach trouble, we say. Yes, but the stomach trouble itself may be only a symptom of chronic worry, and the worry a symptom of deficient income. The patient's expenses turn out to be a trifle larger than his wages, and one of the many bad results of this fact is the worry that causes the stomach trouble, which in turn causes the headache.—Richard C. Cabot, "Social Service and the Art of Healing."

It doesn't take a very clever person to fool a bright health officer—but it takes an artist to fool nature or deceive a Klebs-Loeffler bacillus.—Illinois Health News.

VOCATIONAL TRAINING FOR DISABLED CANADIAN SOLDIERS

Work of Canadian Military Hospitals Commission—Reeducation of Crippled Soldiers for New Vocations

THE MODERN HOSPITAL has been fortunate enough to secure for publication in the Occupational Therapy Number several of the papers read at the recent Consolation House Conference which resulted in the organization of the National Society for the Promotion of Occupational Therapy. On other pages will be found the papers of Dr. W. R. Dunton on "The History of Occupational Therapy," of Mr. G. E. Barton on "The Inoculation of the Bacillus of Work," and of Miss Susan C. Johnson on "Occupational Therapy in New York City Institutions." Mr. T. B. Kidner, secretary of the Canadian Military Hospitals Commission, gave at the same meeting an interesting account of the work of the commission, which was formed to care for disabled members of the Canadian expeditionary force. Mr. Kidner's address was not given from manuscript, but he has been kind enough to prepare the following summary for THE MODERN HOSPITAL.

Early in the war, recognizing that the military authorities of the Dominion were more than fully occupied with the business of training, equipping, and dispatching troops overseas, the Canadian Government appointed a commission of prominent men of affairs to provide convalescent hospitals, vocational training, and employment for men returned from Europe, disabled from active service. The organization by which a man is received from the steamer on arrival and finally restored to civil life, was described. The various departments of the government and many public and semipublic agencies and private citizens, all cooperate under the leadership of the Hospitals Commission.

Early in 1916, the commission decided to provide occupational work for all men undergoing treatment in the various convalescent hospitals which have been established by the commission from coast to coast in Canada. The commission was of the opinion that the introduction of this work would have a threefold value. First, it would have a disciplinary value by preventing idleness and its consequent troubles; second, it would have a distinct therapeutic value; and, third, it would in many cases improve a man's earning capacity upon his return to civil life. The policy of providing this occupational training has proved most successful and a great variety of subjects are being taught, including general subjects, business courses, arts and crafts of various kinds and outdoor work, such as gardening and poultry keeping.

The problem of the reeducation for new vocations of the more seriously disabled had also been taken up vigorously. The method adopted to decide on a new vocation for a disabled man was of particular interest to the members of the convention. A careful personal survey is made of each man's case and involves a record of his educational and industrial history, his habits and tastes, and his own desires for the future. A small board of three persons, known as a Disabled Soldiers' Training Board, is appointed in each of the centers where disabled men are being treated. This board consists of a medical man, a vocational counsellor and a layman chosen to represent the local unofficial viewpoint. If the recommendations of this board are accepted, the disabled man enters upon a course of training at the government expense. During the period of training and for one month after it has been completed, the man and his dependents are maintained by the government.

Some special problems have arisen, such as the treatment of soldiers suffering from tuberculosis, of whom there are at present over five hundred being treated in Canada. Occupational work has been introduced in several of the sanatoriums and is proving very successful. Another serious problem was that of the men suffering from shell shock, for whom special preparation had been made, although the question of the proper treatment of shell-shock cases was a most difficult one.

EQUIPMENT OF GERMAN HOSPITAL SHIPS

Many Are Converted Merchant Vessels—Wards Provide Ample Air Space—Facilities for Operating

The following description of German hospital ships appears in a recent number of *The Hospital*, London:

German hospital ships, on account of their different spheres of action, have to be divided into two classes—the auxiliary hospital ships, and the hospital ships proper. For auxiliary hospital ships small steamers have been utilized, which are easily managed and can be used not only in receiving sick from the ships, but also for either receipt or discharge of patients directly from or to docks. Suitable heating, ventilating, and lighting facilities are a foregone conclusion. The personnel and equipment of these ships are somewhat meager—two medical officers—since the stay of patients is only short, limited to the time necessary for transfer to permanent quarters. Bed accommodation on these ships is provided for from 50 to 100 persons.

The hospital ships proper are vessels of from 5,000 to 6,000 tons displacement. They are good sea-boats, have suitable speed to follow a fleet, and are equipped with all the hygienic comforts of the up-to-date passenger ship. The different navies satisfy their need for hospital ships by the equipment, for that purpose, of merchant vessels. The German navy, in accordance with previously laid-down plans, converted merchant ships to the number of seven into auxiliary hospital ships, and six, with an average bed capacity of 300 patients, into hospital ships. These ships, converted into hospital ships in a short space of days, show in their interior already their changed mission. In accordance with the provisions of the second Hague Conference, they are painted white, with a 1.5 meter wide green stripe in the case of government ships, and a red stripe in the case of ships fitted out by benevolent societies or private individuals. Besides the national flag, they also carry the Geneva flag.

The main feature of these ships are the wards, which generally occupy the two upper decks, providing not less than 15 cubic meters of air space for each patient. The beds are either stationary, arranged with due allowance for the ship's motion, or swinging cots fastened to iron stanchions. Smaller wards for the accommodation of infectious diseases, mental and critical cases, and sick officers are also provided. Among other important features are the light and well-ventilated operating rooms, with anesthetizing rooms, dressing rooms, etc., usually located on the upper deck. An x-ray room is an absolute necessity. The dental care unavoidable in cases of injuries to the jaw necessitates a dental room with complete equipment for the treatment of such cases. The medical cases are usually in wards not adjacent to those for surgical, skin, eye, and ear cases, but are located next to the dispensary, and connect with a room for electrical and hydrotherapeutical treatments. It is hardly necessary to mention that each ward has its own bathroom facilities. The

different lavatories are located next to the wards occupied by the infectious diseases, which latter also requires a disinfecting plant. Other necessary adjuncts of hospital ships are ample kitchen space, cold storage facilities, laundry, repair shop for instruments, sewing-room, and storage room for medical and surgical supplies. A library for the crew and for professional reference is also provided.

Of great importance on a hospital ship is an easily operated arrangement for the transfer of sick either from or to the ship, and for this purpose a double swinging cot is used, hung from a boom. On the ship itself, elevators take care of this problem. A life-saving apparatus is also included in the equipment. The personnel of the ship consists usually of the senior medical officer and three juniors, a pharmacist, and a dentist, also hospital orderlies and Red Cross nurses.

OCCUPATIONAL THERAPY IN THE GENERAL HOSPITAL

Experiment Successfully Tried in Three Chicago Hospitals, Michael Reese, Presbyterian, and Cook County Hospitals

The value of occupational training in certain special classes of institutions is obvious. In custodial institutions like homes for the feeble-minded and epileptic the vocational training of the inmates may be of great economic value to the institution itself. Occupational training given in special hospitals for patients with diseases imposing a definite handicap, like tuberculosis and nervous and mental diseases, may just as obviously do much for the patients therapeutically and even economically; the length of such patients' stay in the hospital gives opportunity for more thorough instruction than would ordinarily be possible in a general hospital.

It requires perhaps more discernment to see the need for occupations in the wards of the general hospital. There are many factors which make the problem a difficult one—the small amount of space allotted to each patient, the comparatively short average hospital sojourn per patient, the fact that the nurses usually lack time and training to cooperate. And yet the aggregate waste of human energy and courage through enforced idleness may be just as great in the general as in the special hospital.

The experiment of introducing work into the wards of the general hospital is therefore of considerable interest. Michael Reese Hospital, Chicago, last year initiated such work under the direction of Miss Susan E. Tracy, who, in addition to being an experienced nurse and former training-school superintendent, has a ten years' record as a missionary in occupational therapy, and is the author of "Studies in Invalid Occupation," "Rake Knitting and Its Special Adaptation to Invalid Workers" (reviewed on another page, this issue), etc. The results have been described by Miss Laura Kraemer, a nurse who was closely connected with the work, in the *Associated Bulletin* as follows:

"Those patients who were able were taught to make baskets, to do simple leather work, such as the making of bags, purses and soft slippers, to rake knit, and to weave by hand. The interest grew surprisingly. The doctors began to prescribe certain occupations. Surgical cases would often work on their 'stunt' up to the very moment of going to the operating room, thus passing quickly and pleasantly the usually nerve-trying time. One active young Texan whose leg was badly cut and infected, had been put in a semiprivate room and so overlooked by the occupation teacher. One day he sent a nurse out to ask that woman to bring him some work, any kind. From that day on during the remaining two months of his stay his interest never flagged, and when he left he said: 'It was that work that helped me through.' One-armed patients would devise the most ingenious ways of holding their tools, often successfully competing with two-armed workers. One young woman being treated for gastric disorders was apparently unable to retain any food. An attractive and soothing occupation was prescribed for her, which so quieted her mind and nerves that a few days later she told the nurse she never even thought whether she was nauseated or not after eating her lunch that day. Young girls suffering with chorea were given such work as stuffing cloth dolls and animals in which the involuntary muscular movements were somewhat controlled, with apparently good results."

Appreciation on the part of a member of the Woman's Auxiliary Board of Presbyterian Hospital of the far-reaching value of the work thus demonstrated resulted in a three months' course being offered by her to the institution and, later, to a lengthened period being carried by the Woman's Auxiliary Board with the hope of giving it a permanent place in the institution. Miss Tracy gives her mornings to the wards for bedside teaching and her afternoons to the training of pupil nurses.

The work in the wards is full of interest. The aim in the first place is therapeutic—to aid in restoring the patient to his normal condition, or at least in palliating his

Fig. 1. Rag dolls dressed in the English civil costumes of various historical periods. The dolls and costumes were made in Miss Tracy's classes at the Presbyterian Hospital.

sufferings and giving him a normal outlook on life—in the second place it is educational—to teach him how to use such powers as he has left—and in the third place only, economic. Some of the articles made are both useful and salable, as the attractive caps, jackets, and blankets, knit by the patients on wooden rakes; others, like the articles molded out of a plastic mass of wet blotting paper, are useful chiefly for the effect of the work on the patients. When intended for patients with contagious diseases, for instance, occupation of the latter class can be chosen because the product may be destroyed without compunction.

The radiant pleasure and pride of the patients in their work is most striking. The dainty layette made by an expectant mother, the box of toys made by a man patient for his little girl at home, the hat fashioned by a woman patient out of scraps of braid and silk, and up to the minute with its trimming of appliqué fruit (also the patient's work), the leather purse and baskets made by a little boy, the afghan knitted by a little girl—all are exhibited with a beaming satisfaction that indicates the deep significance of these things. They are not merely pretty or useful articles—not merely even tokens of skill—they are trophies of conquest over hours of fatigue, depression, and discour-

agement; they stand for renewed self-respect and self-reliance.

Two especially interesting cases show how much an apparently slight accomplishment may mean to a heavily handicapped person. One is the case of a Greek, shot in the neck, with a resulting complete paralysis of the right hand and arm and of the left hand; the patient still has some control over the left arm. Dr. Peter Bassoe, the patient's attending physician, gladly granted Miss Tracy permission to see if she could do anything for this man. After considerable study—for what could be expected of a man with the use of neither hand and only one arm?—she hit upon the plan of equipping the patient with a polishing pad, fastened into his right palm by a band buttoning around the hand. With this apparatus he is able to polish articles fastened on a special bed table in front of him, using his inert hand simply as a tool driven by his arm, somewhat as a carpenter uses a plane. It is hoped that he may thus be enabled at least to contribute to his own support when he is discharged. He at any rate has

Fig. 2. The garden scene from "The Merchant of Venice." These characters, also, are represented by rag dolls made and dressed in Miss Tracy's classes. Spools, scraps of wrapping paper and tissue paper, etc., are cleverly utilized in the scenery, and the costumes are likewise made of such materials as chance brought to hand.

the satisfaction of knowing that his will can direct the use of a part of his body. This man had not been able to put anything into his own mouth for four months, but, with the aid of a second leather palm which holds a fork or spoon, he can now feed himself to some extent.

Another interesting case is that of a woman affected with such violent and uncontrollable tremors of the hands and arms that it is impossible for her even to feed herself. An occupation for this patient was as hard to find as one for the paralyzed man. She has at least learned to stuff toy animals quite expertly.

Some of these occupations have been criticised as trifling and elementary. In many cases, however, as Miss Tracy says, the difficulty is to find work that is elementary enough. The tangible product may seem trivial, but the fostering and rebuilding of character, which is so apt to suffer under idleness and illness, is not a trivial achievement.

A most interesting exhibition of the work of patients and nurses in the Presbyterian Hospital was held May 1 to 5. One of the most instructive features was the astonishingly effective use made of homely, everyday materials like grocers' wrapping paper, spools, twine, scraps of cloth, corrugated pasteboard, and tissue paper. A group of dolls dressed in the historical costumes of various periods exemplified the principle of using the material at hand. Dolls as well as costumes were home-made; the wigs were improvised out of appropriately colored yarn; ermine bands were represented by white cotton flannel with black stitching, etc. A series of groups of similar home-made dolls dressed in costumes represented scenes from the "Merchant of Venice." Here marble terraces were represented by grocers' marbled paper; balustrades were made of spools, etc. Surprisingly effective reproductions of well-known mural decorations, such as Alexander's series on "The Making of the Book," in the Congressional Library at Washington, were made by the use of layers of different plain colored papers applied as a kind of mosaic. One pupil had devised a representation of the solar system out of colored balls. Evidently, one thing learned was that one does not have to spend money to have the means to express oneself artistically or graphically; the means lie close at hand, provided one has the ingenuity or training to use them.

Another Chicago general hospital in which occupational therapy has been introduced is Cook County Hospital. Through the efforts of Miss Prentiss, head of social service work for that institution, and with the cooperation of the Illinois Society for Mental Hygiene, occupational therapy was introduced into the wards of the orthopedic department. The work, which is dependent on private subscription, has been temporarily suspended for lack of funds, but it is hoped that it will soon be possible to renew it.

What might be called out-patient occupational work, the outgrowth of the classes in Michael Reese Hospital, has also been described by Miss Kraemer in the same number of the *Associated Bulletin* previously quoted:

"The interest grew until the patients would watch eagerly for the hour when the worker appeared, and some of them, after leaving the hospital, would come back to ask for further instruction in these occupations or to learn where to obtain materials. These were mostly one-armed men who had learned some work by which they could make a temporary living, or cardiac cases who found their former trade too hard for them and wished to try the new occupation learned at the hospital. The board of directors felt that this was a very important need, but scarcely one that the hospital could meet; also that such work, to be profitable for these people, should be carried on under supervision and a market supplied for their wares. The solution seemed to be a shop where they could work a few hours every day under supervision until they were again able to take up their former employment, if that time should come, or make a living in the new.

"In November, 1916, a small industrial shop was opened in the basement of the Jewish Aid Building, 1800 Selden Street, under the direction of the Jewish Charities. The work was begun on a very small scale, accommodating not more than fourteen workers. Cardiac convalescents predominated, with neurotic cases next. Rug weaving, cloth weaving, basket making and similar hand work is taught. Although still in a very crude and experimental stage, the work is proving itself worth while. The patients are happy while at work. One man, who has done no work for several years, expressed it thus: 'I no sleep all night, much pain, but when I come here I cannot say in English, but I have what the Germans call "Mut."'

"The rug weaving has been self-supporting from the start, because of the ready market. The other work, being cruder, is not in such demand, but undoubtedly will be in time. . . . Whatever the economic outcome of this small

beginning—and one must believe that great things will grow from it—we, who are working with these people, know that they are gaining much by this exercise of body, mind, and will; that they are overcoming the enervating habit of self-pity and forming the habit of self-respect."

A WAR MEASURE

Plan Offered by National Child Labor Committee to Employ Children in Agriculture Under Supervision and Without Burdening Farmers

"To organize the children of America to serve in war time in the production of foodstuffs under supervision of educational directors and at the same time safeguard the children against overwork and general neglect," the National Child Labor Committee has sent a letter and leaflet outlining a workable plan to every state, county, and city school superintendent, the secretaries of agriculture and labor, the commissioner of education, the chief of the Children's Bureau, members of the Council for National Defense, and others interested. The plan calls for the cooperation of teachers, scout masters, and playground directors, and was drawn up after conferences with the directors of the Playground Association and Boy Scouts of America, the New York commissioner of education, the president of the New York City Board of Education, and the Agricultural Committee of the Merchants' Association. The plan divides children into two classes, those 14 years old and over, who may be hired out or sent in groups to work in farm districts, and those under 14, who would be a burden to the farmers, but may be used in their home towns under supervision. For employing the younger children, towns are advised to form a "summer agricultural faculty" composed of teachers, scout masters, and others, get the use of vacant lots and raise a small sum to have them plowed, and secure a special resolution from the local school board providing that children enrolled for this supervised agricultural work and performing it regularly may be credited with it in lieu of regular school attendance from June 1 to October 1. But allow no general exemption," says the leaflet, "that will turn children out of school without providing both occupation and supervision." The children thus enrolled are then to be set to work to raise foodstuffs appropriate to the soil and location under direction of the "summer agricultural faculty," who will "appreciate the limits of a child's strength and will not allow him to be overworked." For older children, it is suggested that since "to send any children to farms without knowing the actual need for them, or without regulation, would be wasteful and a hindrance to the farmers, who do not want a horde of inexperienced laborers on their hands," each state should create a committee of school officials to confer with the state agricultural department and farmers' organizations, meet whatever need there is of child labor and draft regulations for it. The suggested regulations are that only children 14 and over be permitted to work for farmers other than their own parents, since, as the National Child Labor Committee states, the farmers themselves repeatedly say that children younger than those 14 or 15 years old are no use to them; that such children be excused from school for farm work between June 1 and October 1; that no children so excused be permitted to work more than eight hours a day or six days a week; that children shall be so excused only on the issuance of a special permit by the state committee of school officials or persons authorized by them, stating that the child has been examined by a physician and found physically fit for work, and is to be employed on a farm known to be a suitable place. The committee of school officials is to be responsible for the enforcement of such regulations and for the supervision of the transportation, housing and feeding of the children. As to housing, it is suggested that the children live in camps, under supervision of scout masters, playground directors, or school officers, from which they may be sent in gangs each day to the farms or fields where they are needed, and to which they may be returned at night, thus keeping their living conditions under control, and relieving the farmers of the responsibility of housing them. In the letter accompanying the leaflet it is stated that "the policy of recruiting agricultural and factory workers from school children 11 to 13 years old, adopted in Great Britain at the beginning of the war, already stands revealed as short-sighted, and standards too recklessly set aside are now being restored. We believe the plan outlined will not only utilize properly the human resources of the country and enable the children to do their bit, but will regulate their work for the best interests of themselves and their employers, and at the same time help supply the country with food. It can be carried out upon sufficient local initiative and will bear abundant fruit without any hazard to the future of the Republic." Copies of the leaflet may be obtained from the National Child Labor Committee, 105 East Twenty-second Street, New York City.

CHILD LABOR IN KENTUCKY*

Education Hindered by Demand for Child Labor on Farms —Poverty and Ignorance Causes of Parental Neglect of Children's Education

The child worker on the farm has never been considered an important element in the child labor problem. In a recent number of the *Child Labor Bulletin*, Edward N. Clopper shows the error of this view. The Federal census of 1910 credits Kentucky with 64,692 child workers from 10 to 15 years old. Eighty-two percent of these—over fifty thousand—are reported as agricultural laborers. Mr.

Fig. 1. A 13-year-old Kentucky boy who works for a farmer for $1.25 a week and his board. His working day is from 4 a. m. to 6. p. m.

Clopper's report does not undertake to deal with the effects of the tasks on the physical condition of the children; he discusses only the interference of farm work with the attendance of children at rural schools.

The laws of Kentucky restrict child labor on farms only indirectly. One law requires that children between 7 and

*The accompanying illustrations are shown by courtesy of the National Child Labor Committee.

12 years of age living in the rural districts shall attend school regularly throughout the common school term. Another forbids the employment of children under 14 years of age at any kind of work during the time while the public schools are in session. Both of these laws are said to be quite generally disregarded, however. Cases reported indicate that it is customary to keep farm children out to help their parents during the crop season, or even to hire them out, like the 13-year-old farm hand shown in Fig. 1, whose working day is fourteen hours long (how much time is allowed for meals is not stated), or at least from 4 a. m. to 6 p. m. For this he receives the munificent sum of $1.25 a week and his board. This boy is in the fourth grade.

The causes of this waste of childhood's opportunities, it would appear, are partly economic and partly social. In some cases it is actual poverty and in others merely ignorance and an unawakened conscience on the part of the parents that keeps children at work when they should be in school. On the one hand, tenant farmers and "croppers," being constantly in financial subjection to their landlords and local storekeepers, may with some justification plead want and necessity as the reasons for using their children's labor. On the other hand, instances are cited of well-to-do farmers whose children are used as farm "hands" and consequently receive little or no schooling worthy the name. Tobacco culture takes a heavy toll from Kentucky children. One father frankly said, "That's the advantage of the tobacco crop—every child is a hand."

Fig. 2. Boys "housing" tobacco in a barn in Kentucky.

Fig. 3. Kentucky boys 10 and 12 years old gathering rye in school hours.

"Don't worry! To worry about the past is to dig up a grave; let the corpse lie. To worry about the future is to dig your own grave; let the undertaker attend to that. The *present* is the servant of your Will."—Haddock.

ST. ANTHONY MATS

An Indigenous Handicraft Developed Into a Worth-While Industry—Designs Showing Characteristic Northern Scenes

Dr. Wilfred T. Grenfell, so well known for his medical missionary work on the Labrador coast, tells, in a recent number of *Among the Deep-Sea Fishers*, the story of an interesting industry which he and Mrs. Grenfell have fostered into prosperous growth among the wives and daughters of the Labrador fishermen. The women, Dr. Grenfell says, have by far the worst of life in the frozen North, confined as they are to their houses far more than are the men. These women are accustomed from earliest childhood to make hooked rugs or mats during the winter. The mats last indefinitely, are small enough to be easily taken up and washed, and enable the thrifty to use the last end of the last garment. The work itself is well adapted to the life of the coast women. The fishermen themselves make the apparatus for their wives or daughters, so it costs nothing; the frame takes up little room, as it rests against the wall when not in use; and the work is of such a nature that the worker can employ every little odd minute to good purpose. The color schemes, however, were generally unattractive and the patterns uninteresting, so that the product was scarcely salable, no matter how good the workmanship.

Dr. and Mrs. Grenfell formed the idea of standardizing patterns, materials, and sizes of mats so as to make them salable. They have evolved about sixteen quaint and attractive patterns, representing characteristic local scenes, two of which are reproduced here by courtesy of *Among the Deep-Sea Fishers*. The material used is all new and clean, and the workmanship has to conform to standard. Mrs. Grenfell herself prepares the work, cutting and hemming the burlap, inking in the design, tearing the cloth to be hooked in, and supplying, with each mat given out to be hooked, a small colored design showing in miniature what the finished product should look like. The women

enjoy seeing the scenes of their everyday life grow under their fingers, and the husbands take pride in the development of a local and domestic art. Still more important is the opportunity given to needy families of earning ready money.

A mat 25 by 41 inches sells for $5. Of this price the worker receives $1.50; the remaining $3.50 covers the cost of material and the losses due to wastage by unskillful workers. Mrs. Grenfell has kept consistently in view two cardinal points: one, that all women who need the work shall have a chance to get it; and the other, that the mats shall be sold for as low a price as will insure against a loss. One New York shop has put the mats on sale, but orders direct from consumers are desired. Orders and gifts of material (new wool pieces in white, blue, dark green, or black) may be addressed to the St. Anthony Mat Industry, St. Anthony, Newfoundland.

Fig. 1. A St. Anthony mat, showing a characteristic design.

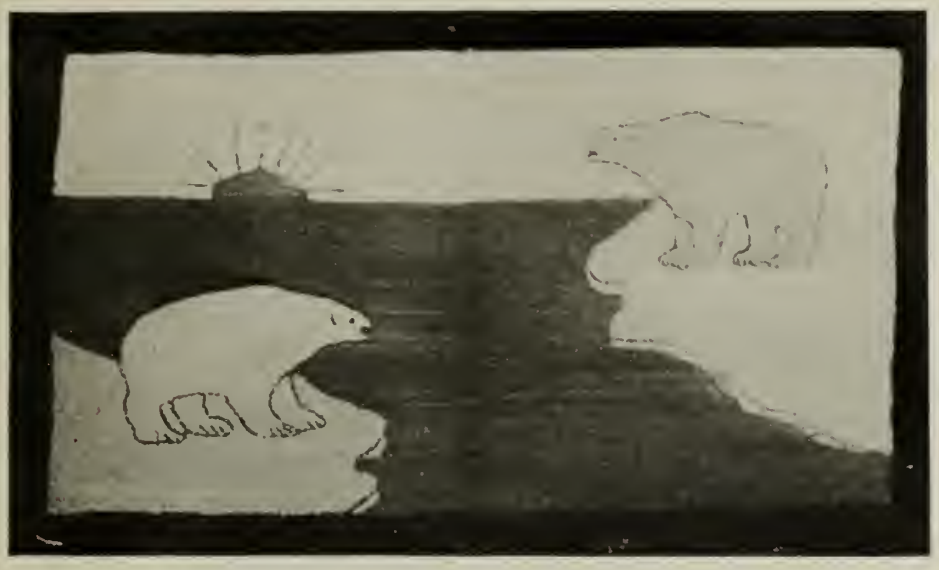


Fig. 2. An even more arctic scene represented on another St. Anthony mat.

This industry has even been copied in England, where the war has brought a necessity for finding employment for wounded soldiers. Lady Davidson, the wife of the governor of Newfoundland, remembering some St. Anthony mats which she had once bought, suggested the introduction of the industry into a military hospital there. The work seems to be well suited to handicapped workers.

Psychology for Pupil Nurses

New York City Hospital, Blackwell's Island, last year introduced experimentally into its curriculum a short course in psychology, says the *American Journal of Nursing*. This course was given in the latter part of the junior year, after the pupils had been on the wards a few months and had thus accumulated a background of experience in dealing with patients and an appreciation of the problems of hospital work. The course was carefully adapted to meet the needs of nurses, the subject-matter being carefully selected and presented in a very simple and concrete way, and the pupils being invited to bring to class all kinds of problems on which psychology might throw light.

The results are said to be very interesting. The pupils have requested that the course be continued and made a required course in future. There are many evidences that the psychological work has awakened in the pupil nurses a more sympathetic, tolerant, and intelligent attitude toward their patients. These pupils, moreover, "have shown a keener appreciation of the psychological elements in the commonest nursing procedures, such as the setting of a tray, the training of a baby in orderly habits, the administration of difficult or disagreeable treatments, and they have also shown that they have a much better basis for understanding pathological mental states, which in some degree complicate all kinds of disease."

It is true, continues the *American Journal of Nursing*, that many of the principles of psychology are nothing else than the common-sense principles of daily life, sifted, explained, and organized. Yet, if practical persons like traveling salesmen, advertising men, and managers of factories find it profitable to study psychology as a means to greater efficiency, can nurses afford to be without this knowledge? "No one has a more difficult psychological problem to meet than the nurse, working as she does constantly with all kinds and varieties of people, many of them hypersensitive and unreasonable, having to adjust herself to the most widely varying conditions, having very often the added responsibility of leading and guiding weaker minds into more wholesome and rational lines of thought and conduct."

Charles Kingsley once said: "If you want to be miserable, think about yourself, about what you want, what you like, what respect people ought to pay you, and what people think of you."

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

THE 1917 CONVENTION OF THE THREE NURSING ORGANIZATIONS

Seriousness of World Crisis Emphasizes Earnestness of Purpose—One of the Largest and Most Successful Meetings Held by Nurses in This Country

The annual convention of the three national nursing organizations, recently held in Philadelphia, drew together, despite the world crisis, one of the largest, if not the largest, assemblies that has been known in the history of the profession in this country. The proceedings were characterized throughout by an earnestness of purpose and a seriousness of attitude easily attributable to the entrance of this country into the world conflict and the acute realization of the members by virtue of their profession of what such a step involved. The seriousness of the situation was intensified by the recalling to their posts shortly after the convention opened of several of the most prominent superintendents of nurses, in order that they might prepare their units for immediate service.

At the opening session on Thursday evening, April 26th, over which the president of the American Nurses' Association presided, a most gracious welcome was extended to the organizations by Dr. Wilmer Krusen, director of the Department of Public Health and Charities of Philadelphia. Brief addresses were given by the three presidents, who were followed by Mr. Thomas Mott Osborne, who spoke for nearly an hour to the profoundly interested audience that filled to overflowing the ballroom of the Bellevue-Stratford Hotel.

The Friday evening session, held at the Academy of Music, was devoted to health insurance, and was presided over by Dr. Charles Hatfield, director of the Henry Phipps Institute. The discussion was opened by Miss Mary Beard, president of the National Organization for Public Health Nursing, and director of the Boston Instructive District Nursing Association. Mr. Miles Dawson of New York spoke to his subject, "What Will Health Insurance Do for American Citizens?" in his usually clear and convincing way. Miss Pauline Newman of the International Garment Workers' Union commanded the deep and sympathetic attention of the house by the originality of her presentation and her strong personality when she spoke of "What Will It Mean to the Insured?" Miss Newman was followed by Dr. I. M. Rubinow, the executive secretary of the American Medical Association, who forcefully presented his subject, "Why Doctors and Nurses Should Understand and Prepare Themselves for Their Responsibilities Under Such an [Health Insurance] Act."

On Monday evening the Academy of Music, which seats three thousand, was completely filled for the Red Cross meeting, presided over by Miss Jane Delano, director of the Red Cross Nursing Service. Miss Noyes, director, Bureau of Nursing Service, American Red Cross, read an able paper on "Volunteer Service for Women in Time of War." Dr. Warren P. Wilson spoke most eloquently of the significance of rural nursing in the southern mountains, and Mr. Eliot Wadsworth's address on "The Work of the Red Cross in the Event of War" was listened to with an interest intensified by the present situation.

The Tuesday (last) evening session was presided over by Miss Sara Murray, educational director of the Registered Schools of Nursing in Pennsylvania. At this session some unique features were presented. The pupils of the Philadelphia General Hospital, under the direction of Miss Feamster, demonstrated the making of a Bradford frame bed with a little child as patient. The students of the Jewish Hospital gave a demonstration of cupping, the students of the Frankford Hospital the giving of a dry pack. The skill and the finished technic of these students, quite young in their schools, and their utter absence of self-consciousness, commanded the admiration of the audience. These demonstrations were followed by a most interesting demonstration of the teaching of solutions, practically and theoretically, to a group of students of the Philadelphia General Hospital, by Miss Amy Trench, instructor of nurses of the Mount Sinai Hospital, New York.

All of the sessions and round tables were splendidly attended, and the interest in the comprehensive program was very evident. So important were the topics presented and so ably were they dealt with that it is difficult to single out any for special comment. All of the papers will appear in the later issues of the *American Journal of Nursing*, the *Public Health Nurse Quarterly* and THE MODERN HOSPITAL.

The organizations were fortunate in having as presiding officers and speakers local authorities in the various subjects presented, notably: Ambrose L. Suhrie, Ph. D., of the University of Pennsylvania, who spoke on "Psychology and Its Application to Teaching and Discipline"; Dr. Edward P. Davis, professor of obstetrics, Jefferson Medical College, who spoke at the Maternity Nursing session; Dr. Samuel McClintock Hamill of Philadelphia, who presided at the Health Centers Session; Mrs. William Falconer, Sleighton Farm, Philadelphia, and Miss Helen Glenn, state supervisor of widows' pensions, Pennsylvania, who discussed the relation of the graduate nurse to the problem of social hygiene. Mr. E. J. Catell, City Statistician of Philadelphia, presided at the session dealing with the relation of clinical records to vital and morbidity statistics.

The two sections, the Private Duty section with Miss Francis Ott as chairman, and the Mental Hygiene section with Miss Elnora Thompson as chairman, not only provided interesting programs but outlined important schedules of constructive work for the coming year.

A third section was created at the request of the boards of nurse examiners. This section will have for its chairman Miss Anna C. Jamme, and will absorb the Committee on Legislation, of which Miss Jamme was also the chairman. The Committee on Legislation did conspicuous work last year, having outlined a minimum national curriculum and made important suggestions leading to a standardization of nurse training schools and the licensing of women for the profession of nursing.

The National League of Nursing Education also reported that the standard curriculum prepared by the Education Committee of this association was in the hands of

the printer and would appear shortly. This curriculum will be in the nature of the ideal rather than the minimum state curriculum prepared by the Committee on Legislation. The schedule of courses that it presents, however, some schools have already attained to or are exceeding.

An important step was the incorporation of the American Nurses' Association in the District of Columbia, the alternative under consideration should it be deemed impossible—because of the present conditions—to obtain a federal charter, a bill for which was presented to Congress last year. The reorganization of the membership will now proceed rapidly. Tennessee and Texas were reported as already organized on the new basis.

In spite of the present financial conditions, contributions of the Relief Fund were most generous, totaling well over a thousand dollars for the coming year.

The organizations are deeply indebted to Miss Clayton, chairman of the Program Committee, and her associates, and to Miss Laub of the Medico-Chirurgical Hospital, chairman of the Committee of Arrangements, for their unceasing thought and for the unusually efficient way in which the large groups of people were handled and the many sessions and round tables were arranged for.

The recreation and entertainment prepared for the visiting members was most thoughtful and generous.

A delightful trip was planned for Saturday afternoon to Valley Forge, a luncheon being served by the Maryland State Nurses' Association of Graduate Nurses, assisted by ladies from chapters of the D. A. R.

The hospitality extended by the various clubs and institutions was greatly appreciated. A daily social hour was arranged for and was presided over in turn by the Philadelphia League of Nursing Education, assisted by the members of hospital and training school boards of managers, the Women's Civic Club, the Philadelphia College Club, the Acorn Club, the New Century Club, the Philomusian Club, and the members of the College of Our Lady of the Visitation. Under the auspices of the last group a charming concert was given during the social hour by the children from the Greek Orphanage.

On Sunday special services were arranged in the churches of the various denominations.

A more detailed report will be presented by Miss Crandall of the proceedings of the National Organization for Public Health Nursing, together with the names of the officers of that organization for the coming year.

The recently elected officers of the National League of Nursing Education are as follows:

President, S. Lillian Clayton, R. N., Pennsylvania; first vice-president, Sara E. Parsons, R. N., Massachusetts; second vice-president, Grace Allison, R. N., Ohio; secretary, Effie J. Taylor, R. N., Maryland; treasurer, M. Helena McMillan, R. N., Illinois.

Board of Directors: Mary M. Riddle, R. N., Massachusetts; Anna C. Maxwell, R. N., New York; M. Adelaide Nutting, R. N., New York; Clara D. Noyes, R. N., Washington, D. C.; Louise M. Powell, R. N., Minnesota; Lauder Sutherland, R. N., Connecticut; Mrs. Ralph C. Apted, R. N., Michigan; Anna C. Jammè, R. N., California.

Officers of the American Nurses' Association: president, Annie W. Goodrich, R. N., New York; first vice-president, Adda Eldredge, New York; second vice-president, Elsie M. Lawler, R. N., Maryland; secretary, Katharine DeWitt, R. N., New York; treasurer, Mrs. C. V. Twiss, R. N., New York.

Board of Directors: Ella Phillips Crandall, R. N., New York; Mary C. Wheeler, R. N., Illinois; Helen P. Criswell, R. N., California; S. Lillian Clayton, R. N., Pennsylvania; Jane A. Delano, R. N., Washington, D. C.; Mary M. Riddle, R. N., Massachusetts.

Nursing Conditions in Java

Interesting details of nursing among the Malay population of Dutch India are quoted by the *Nursing Times* from the *Tijdschrift voor Zickenverpleging*. Great improvements have been effected by a woman doctor (Madame Stokvis-Cohen) practicing at Semarang. Her ideal is a hospital for natives run by native nurses, but progress is needed before such an ideal can be realized. Malay female nurses employed in the existing hospital were unable to read or write, many could only count up to ten; the male attendants seemed rather more capable, having enjoyed the advantage of some slight training under a Dutch doctor. At first natives refused to enter the new hospital, even for consultations, although they would consult the doctor in her own house. Prizes (of babies' baths or toys) were offered for the healthiest and best-tended babies, with excellent results. Presently patients consented to be nursed in the hospital, and found that they liked it. It was a long time before Javanese girls could be induced to train for nursing, but at last two came forward and remained. By 1914 no fewer than seventeen were in training, and a separate house was found for them.

Confinements of Javanese women are conducted on primitive methods. After delivery the patient (if she may be so termed) bathes in the river, and then, standing, is tightly bound up by friends or attendants in a bandage some six or seven yards long and about a foot wide. For the first six hours she is not allowed to sleep or even to lie down. In spite of the lack of medical attendance very few native women die in childbirth. Marriage takes place frequently at 13 years of age, and at 14 many girls are mothers. Grandmothers often bear children. When the baby is 4 days old it is given rice as well as the mother's milk, the food being pushed down its throat. Javanese children, however, thrive and look healthy; perhaps by a process of survival of the fittest.

Troubles are not neatly separated, each in its own corner. They do not heed our academic distinctions or our divisions of labor. Poverty, disease, moral shiftlessness, and spiritual torment are inextricably intermingled in the face and fortunes of a single sufferer. Not even the sufferer himself can tell what is root and what is branch among his troubles. He will wander into a hospital in search of a tonic ("something to give me strength, doctor"), although his weakness may be due to lack of food and that lack to the loss of his job. He will run to a clergyman distracted with religious doubts when the root of his trouble is insomnia. In all such cases he goes to the wrong shop and the shopman (doctor, minister, social worker) is apt to take him at his own valuation, to treat him for his stomach if he complains of that, or for his atheism if that is the burden of his remarks. Disaster often results.—Richard C. Cabot, "Social Service and the Art of Healing."

A True Dimicrat

Hospital Physician.—"Which ward do you wish to be taken to? A pay ward or a——"

Maloney.—"Iny of thim, Doc, that's safely Dimicratic."
—The Journal of the A. M. A.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
Medical Arts Building, Philadelphia, Pa.
WILLIAM H. WALSH, M. D., Secretary.

Official Bulletin for May

PREPAREDNESS

The response to the call of our committee on preparedness has been very gratifying. At this writing more physicians and nurses are required, but the government is discouraging the establishment of new base hospitals, at least for the present. This should not deter any large hospital, however, from perfecting its organization, nor should it prevent all the hospitals reorganizing their staffs for the purpose of liberating as many physicians as possible without unduly disorganizing the service. Hospital superintendents are urged to accumulate large supplies of dressings, splints and other emergency requirements for any possible contingency. It would also be well for hospital authorities to familiarize themselves with the regulations of the Army and Navy pertaining to the records required in all cases treated in civil hospitals. Accuracy in rendering the clinical reports of sick or injured soldiers is of the utmost importance to the country, since carelessness or inaccuracy may either prevent a worthy person getting a just pension or may enable a dishonest person to make claims that cannot be disproved.

FINANCIAL CAMPAIGN

Amongst the many functions assigned the secretary's office by the report of the committee on bureau of hospital information was that of helping hospitals to organize financial campaigns. Upon looking into the methods practiced by certain professional campaign managers, it soon became painfully evident that there was considerable room for improvement, not only in the methods adopted by some, but also in the character of some of the institutions claiming the support of the public. In some instances investigated, a campaign left the institution in a sorry plight; those whose support and everlasting good-will might have been enlisted, were disgusted with the institution and the things that were done in its name; and ofttimes many who had given loyal support for many years withdrew altogether. Otherwise honest institutions have permitted campaign managers to make claims that were known to be false; and they have also stood calmly by without protest when resort has been had to practices distinctly unethical. Hospitals of shady repute have used the campaign method to inveigle the unwilling or uninterested philanthropist into contributing, and in some instances distinctly private hospitals have raised money in a town without any thought or intention of using the funds to care for the poor for whose benefit and in whose name the money was secured. Again, campaign managers have exacted returns for their services that have been out of all proportion to the work performed or the amount actually paid in, and there are cases on record in which every cent of cash taken in was paid over to the manager, leaving the institution with a tangled mass of pledges, many of which were quite worthless.

From the foregoing, it may be gleaned that there is room for reform in the business of money-raising; it is also clear that no hospital should undertake a campaign unless the authorities are in full possession of a considerable amount of information about campaigns in general and managers in particular.

It may be stated as a general proposition that no hospital should attempt to appeal to the public for support unless that hospital is expending the funds already at hand to the best advantage. The public should also have a right to the assurance that the hospital is already performing a philanthropic function and that the money contributed will be used to further that work. There is nothing inherently wrong in the campaign idea, but unless an institution is to be more injured than helped it behooves those who are contemplating such a project to avail themselves of the privilege offered by this Association of supplying advice, assistance, and protection against the unscrupulous who often appear with a trunk full of references. Whenever possible, the secretary will personally visit any hospital considering a campaign, supply the names of managers who have consented to conform to a certain procedure, and will aid in any other way within his power.

BUREAU OF REGISTRATION

We are glad to announce that many requests have been received from all over the country for suitable candidates to fill positions, and we are beginning to feel proud of our accomplishments. The office is gradually accumulating a mass of information about hospitals, so that as a rule when applicants are referred to a hospital we can supply considerable data. In cases in which conditions are unusually bad and a new superintendent is desired, we do not hesitate to advise the prospective candidates of the undesirable situation so that the necessary precautions may be taken. Since this office requires references before registration, we feel that hospitals, too, should meet certain requirements if they want capable officials, and in at least one case we have successfully forced such an issue.

NATIONAL MEMBERSHIP CAMPAIGN

It must be evident to all that we are not doing the greatest good to the greatest number. It also cannot be denied that there has existed among some the selfish notion of a small select organization. We think the day has come for expansion, and that the time is about ripe to invite every reputable hospital worker in the United States and Canada into the fold. A conservative estimate of the number of hospital people in the United States and Canada eligible for membership in the American Hospital Association would place the figure at about 20,000, of whom at least one-fifth, or 5,000, are eligible to active membership. The income from an organization of such magnitude would amount to

Active, 5,000 at $5	$25,000
Associate, 15,000 at $2	30,000
Total	$55,000

A properly organized and well-managed campaign conducted for the purpose of acquainting everyone in America with the objects of the association would bring us, if the experience of other organizations may be used as a criterion, about one-fifth of those eligible, or a total of 12,000

new members, which, when divided into one-fifth active and four-fifths associate, would give us an income of

Active, 2,400 at $5	$12,000
Associate, 9,500 at $2	19,000
Total	$31,200

In considering this matter, it should be remembered that the advertising value of such a move would be inestimable, since our literature and the work of the association would within a very short period become known in every city, town and hamlet in the country.

This matter has not been definitely acted upon by the trustees, but in any event the proposition will come up for consideration at the convention.

PROGRAM FOR CLEVELAND

In arranging the program for the coming convention, the president has recognized the necessity for separate business meetings, and has so arranged the program that on Tuesday, Wednesday and Thursday there will be sessions for business only, between 4:30 and 6 p. m. Active members only will be expected to attend these meetings, and it is the hope of the trustees that the innovation will prove successful.

Another change in keeping with the general tendency in the direction of the conservation of daylight is that of commencing all sessions promptly at 9 a. m. instead of at 10 a. m., as heretofore. It has also been the desire of the president to allow certain specified times for the inspection of the various non-commercial and commercial exhibits, since it is recognized that members have been deprived of the privilege of inspecting exhibits because of the laudable desire to attend all sessions.

REGARDING MEMBERSHIP

While we cannot complain about the lack of applicants for admission to membership, we do not propose to sit complacently by and see any hospital not represented on our rolls. Fifteen hundred live hospital workers are now enthusiastically testifying to the value of the association to them and we submit that this alone is a forcible argument. One to whom we wrote a short time ago replied, "I don't like the way they are running things." So we wrote: "Then get in and lend the weight of your influence and experience to those who year after year are struggling to improve the association. If you are right, you will find many kindred spirits fully agreeing with you. It is unfair to adversely criticise and refuse your help."

A letter received today advises, "I am certainly deeply indebted to the association for the position secured through the Registration Bureau, and I do not feel as though the small sum paid as annual dues for the last five years is a sufficient recompense to the association for its aid to me." The writer of the above letter enclosed two new applications.

The reader of this bulletin may need the services of the association some day, so get busy now and strengthen our hand by sending in *one* new member.

Almost all superstitions are owing to bad observation, to the *post hoc, ergo propter hoc;* and bad observers are almost all superstitious. Farmers used to attribute disease among cattle to witchcraft; weddings have been attributed to seeing one magpie, deaths to seeing three; and I have heard the most highly educated nowadays draw consequences for the sick closely resembling these.—Florence Nightingale, "Notes on Nursing."

RED CROSS MILITARY UNITS

Classification of Red Cross Military Units—Base Hospitals, General Hospitals, Hospital Units, and Surgical Sections

Red Cross military units which the Red Cross is authorized by the War Department to create for service with the Medical Department of the Army in war are base hospitals, hospital units, surgical sections, and general hospitals.

In any consideration of the matter of Red Cross hospitals the distinction should be borne in mind between the various classes of hospitals which take part in the service of the rescue and care of sick and wounded of armies. It is divided into three zones, the first zone being called the service of the front, and extending from the line of battle back to the field and evacuation hospitals. This zone is operated by the medical service of the Army, and Red Cross organizations do not usually take part in it. The second zone is that of the military base to which the wounded are brought from the first zone and where they first meet, at the *base hospital,* the comforts and facilities of a real hospital which has good beds, trained women nurses, and a large professional staff. The third zone is that of the home country, and the hospitals organized, whether established by the Army or Navy from existing civil hospitals, are called *general hospitals.* In much of the correspondence with this office it is found that when people speak of a base hospital they really mean a general hospital, and that when they propose to establish a base hospital they usually mean a general hospital in their home city.

A *base hospital,* when called into service, is moved to the place where the military authorities need it. It is, however, organized in connection with a large civil hospital which is usually referred to as the "mother" hospital. This is required in order that the unit may be composed of doctors and nurses who are accustomed to work together and have already the spirit of unity and organization. If, on the contrary, it were permitted to enroll a base hospital from doctors and nurses attached to various institutions or in private practice, it would be without cohesion and a unit only in name, and would be in fact only a list of names of little immediate value. The creation of these large and complex organizations is a military matter and also a professional one, and is, therefore, never delegated to chapters but is done in a definite way which has the approval of the War and Navy Departments. The *first* requirement for the organization of a base hospital is a parent institution, either a large civil hospital or a medical school which can furnish the large professional staff needed for it and still have left a sufficient staff to carry on the work of the parent institution. The *second* requirement is to find the member of this staff who, by his age and professional and personal standing, is a leader who can successfully organize the base hospital, if appointed its director for that purpose. The *third* requirement is to raise the funds necessary for the equipment. This is usually done through the local Red Cross chapter, which must be strong enough to raise $25,000 for this purpose and also furnish, through its committees of women, the hospital linen, hospital garments, and surgical dressings necessary for the equipment of the base hospital. The money has in some cases, however, been raised by wealthy friends of the parent institution.

Hospital units are organized groups of physicians, surgeons and nurses, with a number of orderlies, which may

be assigned to duty to supplement the established military hospitals. They may also be assigned to duty on hospital trains and ships. As they are joined to already existing organizations, they will not be equipped with beds and hospital furniture, except for the personal use of the staff. They should, however, have a full operating-room equipment for the surgical section, and such instruments and appliances as may be desired by the medical section.

Surgical sections are special detachments intended to reinforce the operating staffs in time of emergency. The surgical section has the same equipment as the surgical service of a hospital unit. The staff consists of four surgeons, seven nurses, two orderlies, and a clerk.

The base hospital, hospital unit, and surgical section are all movable units which should be prepared to serve wherever their services may be needed by the government. Only in the case of very large hospitals having a strong chapter to back them should the organization of a base hospital be attempted. Hospitals of lesser size desiring to offer their services for a movable unit should undertake one of the two latter.

Civil hospitals in the third zone, the home country, when taken over for use by the military authority are called *general hospitals.* Service with the general hospital does not, therefore, necessitate leaving home. The organization of general hospitals is described in paragraph 20 of the Regulations for the Employment of the American Red Cross in War. Another way in which civil hospitals may be used is for them to give up a certain number of their beds for the sick and wounded soldiers and sailors, the administration of the hospital remaining in the hands of its own trustees and staff.

Sanitary training detachments are units for the instruction of men in first aid, the transportation of the wounded and other matters, knowledge of which is required for service with the sanitary department of the army. The sanitary training detachment differs from the units above mentioned in that it is a chapter activity and is administered by the chapter which should buy its equipment. Every Red Cross chapter should support at least one of these detachments.

The industrial nurse still has her way to make among both the employers and the employed. The former do not always recognize her need, and for the latter the intangible value of health protection is always somewhat remote, unless it is first brought home in some very practical form. Her work, however, is so simple and sane, and her service so evident, that her establishment on a permanent basis is sure to follow her experimental introduction in any new field. For the very reason that industrial nursing is as yet so little standardized, the present-day industrial nurse has it in her power to create what standards she will. What industrial nursing is likely to become is largely in her hands. The work is already being retarded through the employment by many firms of untrained women. It is for the graduate industrial nurse to so prove her value, that as general medical inspection of employees becomes part of state legislation, she will be found an indispensable part of all systems involving better provision for the health of the industrial worker.—Mary S. Gardner, "Public Health Nursing."

Now I get me to my work;
I pray the Lord I may not shirk.
If I should die before the night,
I pray the Lord my work's all right.
—Kansas State Board of Health.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

AMERICAN MEDICAL ASSOCIATION

* * *

Interesting Programs Arranged for Hospital Superintendents and Executives, Nurses, and Those Interested in Hospital Social Service

There will be an information desk in the enrolling room at the Hotel Astor where information relative to hospitals and their special interesting features may be obtained.

Monday, June 4, and Tuesday, June 5, all hospitals will receive members from 10 a. m. untii 4 p. m. Members who are attending clinics and are interested in hospital administration may visit and study special features of hospital administration after the clinic is over. On Tuesday, June 5, members (limited to 50) desiring to do so may visit Willard Parker, Bellevue, City, Metropolitan, and Riverside Hospitals. Passes for this trip will be issued at the information desk of the hospital committee.

The committee on hospital superintendents and executives consists of George O'Hanlon, chairman; William G. Nealley, secretary; Alexander H. Candlish, Thomas Howell, and Robert J. Wilson.

The committee on trained nursing and training schools consists of Miss Adelaide Nutting, chairman; Miss Elizabeth Greener, vice-chairman; Miss Jessie Murdock, secretary; Mrs. C. E. Bath, Miss Annie W. Goodrich, Miss Amy Hilliard, Miss M. H. Jordan, Miss Anna Maxwell, and Miss Agnes Trull. A program has been arranged which includes visits to Bellevue Hospital, where surgical operations will be observed and nurses' residence inspected; to Bloomingdale Hospital, Occupation Department; to Brooklyn Hospital and Nurses' Home; to City Hospital, Blackwell's Island, School of Nursing, where educational methods in nursing, nurses' home, hospital, occupational activities of patients, and kindergarten will be inspected; to club houses for nurses, including Alumnæ Association, Osborn Hall, and Central Club; to German Hospital and Dispensary (A. Jacobi Department for Children); to Kings County Hospital, Brooklyn, where educational methods in nursing and the nurses' home will be observed; to the Lying-in Hospital; to the Manhattan Maternity and Dispensary, where nursing technic, delivery, and perineal dressing will be demonstrated; to Mount Sinai Hospital, where educational methods and teaching procedures, the surgical supply room, operating room, and isolation department for contagion will be shown; to the occupation department of the Neurological Institute; to the New York Nursery and Child's Hospital, where the observation and admission ward composed of plate glass cubicles, one crib in each, for isolation during observation period required by Board of Health, and the obstetrical department with nursery for premature babies will be inspected; to the Post-Graduate Hospital, Margaret Fahnestock Training School, where nursing methods in adult-ward medical work will be demonstrated; to the Presbyterian Hospital, where dietary procedures relating to metabolism and caloric charts will

be shown; to St. Luke's Hospital, where the preparation and serving of food for private patients and medical and surgical equipment for ward nursing will be observed; to the Skin and Cancer Hospital, Bulkley Training School, where nursing procedures in skin diseases and anesthesia will be demonstrated; and to the Sloane Hospital for Women.

The committee on hospital social service consists of Mr. James K. Paulding, chairman; Miss Mary H. Combs, secretary; Dr. Richard Derby, Dr. Virgil P. Gibney, Dr. S. S. Goldwater, Dr. Alexander Lambert, Dr. William Lohman, Miss Ruth Morgan, Mrs. C. F. Neergaard, Miss Jessy C. Palmer, Dr. Joseph C. Rober, Dr. E. G. Stillman, and Miss Mary E. Wadley. The program includes visits to the social service bureau, tuberculosis division, Day Camp Southfield, and settlement of Bellevue Hospital, with demonstration of oral hygiene by Dr. Frank Billings; to Beth Israel Hospital; to Brooklyn Hospital; to Cumberland Street Hospital, Brooklyn; to the Day Camp Rutherford, Brooklyn; to the pediatric divisions of Harlem Hospital and King's County Hospital; to the baby welfare and poliomyelitis clinics of Lebanon Hospital; to the outdoor obstetrical division of Long Island College Hospital, Brooklyn; to Metropolitan Hospital; to New York Dispensary; to N. Y. Eye and Ear Hospital; to the syphilis, tuberculosis, and children's clinics of New York Hospital; to the Sharonware Workshop for Cardiacs, and to the roof for tuberculosis patients, Vanderbilt Clinic.

KANSAS HOSPITAL ASSOCIATION

* * *

Successful Meeting Held at Salina—Fee-Splitting Condemned by Kansas Hospitals

The Kansas Hospital Association held its most successful meeting at Salina May 1. An address was delivered by Dr. Samuel Murdock, Jr., of Sabetha. The following program was carried out: "How to Succeed With a Private Hospital," Dr. J. S. Sutcliffe, Iola; "Patients' Hospital Records," Dr. J. T. Axtell, Newton; "The Closed Versus the Open Hospital," Dr. H. L. Snyder, Winfield; "The Private Hospital as an Investment," Dr. T. A. Jones, Liberal; "The Educational Function of the Hospital," Mayme M. Conklin, R. N., Topeka; "Cooperation," Dr. J. J. Sippy, state epidemiologist, Topeka; "Some Hospital Problems," Dr. F. W. Shelton, Independence.

The most important business transacted was the passage of a resolution condemning the practice of fee-splitting and requesting the hospitals of the state to refuse to allow surgeons who split fees to use their hospitals. Another important piece of business transacted was a provision to allow the inspection by the members of the executive committee of all the hospitals in the state. From information thus obtained much valuable material will be available next year.

The new officers elected were: president, Dr. F. W. Shelton, Independence; vice-presidents, Dr. J. C. Hall, McPherson, and Dr. G. W. Jones, Lawrence; secretary-treasurer, Dr. W. R. Dillingham, Sabetha.

NEW YORK ASSOCIATION OF DIETITIANS

* * *

Election of Officers—An Active and Progressive Association

The newly organized New York Association of Dietitians is progressing. At the February meeting, held at the Post-Graduate Hospital, the following officers were elected: president, Miss Elva A. George; first vice-president, Mrs. Ruth M. Sturgess; second vice-president, Miss Edith Crews; recording secretary, Miss Bessie E. Speas; corresponding secretary, Miss Inez E. Reeves; treasurer, Miss Margaret L. Best. A committee was appointed to draw up a constitution and by-laws.

In March, Miss Mary S. Snow, lecturer at the New York University, addressed the association at the Mount Sinai Hospital, taking as her subject "When the Dietitian Is a Professional Woman." Her talk was most inspiring and instructive, and supplied the stimulus needed to carry on the enthusiasm of the association. Following Miss Snow's address, the constitution and by-laws were acted upon and adopted.

The April meeting was held at the New York Nursery and Child's Hospital and was given over to the business of appointing various committees. The field for dietitians in the Red Cross was also discussed.

THE MINNESOTA HOSPITAL ASSOCIATION

* * *

Hospital Superintendents of Minnesota Form Association, Adopting Constitution and By-Laws and Electing Officers

In response to a call signed by fourteen hospital superintendents in Minneapolis, a meeting was held at the Radisson hotel on Friday, April 20, for the purpose of forming an association of the hospitals in the state. Of the 152 hospitals to which the call had been sent, 36 were represented at the meeting and 12 others sent written application to be entered as charter members.

The meeting was opened by Mr. G. W. Olson, superintendent of the Swedish Hospital, Minneapolis, in his capacity as president of the Minneapolis Hospital Council, through which organization the move for a state association was initiated. Mr. Olson was elected temporary chairman and Mrs. George G. Eitel, superintendent of Eitel Hospital, Minneapolis, temporary secretary. In his opening remarks the chairman referred to the benefits to be derived from conference and cooperation between the hospitals throughout the state, and mentioned similar organizations in other states, notably Ohio, West Virginia, Kansas, and Maryland. A state association was being formed at the same hour by the hospitals of North Dakota, and Chicago hospital superintendents, after experiencing the benefits of cooperation through a local organization, are making plans to form a strong state association in Illinois. Economies in administration through the standardization of business methods, uniformity of policy in dealing with patients, public, medical profession and employees, were named as some of the practical objects to be attained by conference and cooperation. Legislation for the protection of hospitals against fraud and imposition, and against injustice of many descriptions, can be secured only through statewide organized effort.

It was unanimously decided to organize the Minnesota Hospital Association. Constitution and by-laws, a draft of which had been prepared by a committee of the Minneapolis Hospital Council, were adopted. The object of the association is stated to be "the promotion of economy and efficiency in hospital management, and the welfare of hospitals and hospital workers in Minnesota." Membership is of three classes: active, associate, and honorary. Active membership is open only to those who are executive heads of hospitals. Associate membership is open to trustees or members of hospital boards, and to executive officers of hospitals next in authority below the superintendent. The association is governed by a president, three vice-presidents, a secretary-treasurer, and an executive committee

to which three members are elected and of which the president and secretary-treasurer are ex-officio members. The standing committees, appointed by the president are: auditing committee, membership committee, nominating committee, committee on legislation, committee on constitution and rules.

Following the adoption of the constitution and by-laws, a committee on nomination of permanent officers was appointed with instructions to report at the evening session. Adjournment was then taken until 6 p. m. At 2 p. m. a tour in automobiles provided by Minneapolis hospital superintendents was made to the various hospitals in the city. The new pavilion of the Maternity Hospital was the object of special interest, as was also the large new building being erected for St. Mary's Hospital. Miss Bertha Matlick, superintendent of Hill Crest Hospital, was chairman of the committee in charge of the automobile tour.

At 6 an informal dinner was served in the Empire room of the Radisson hotel in connection with the final session of the meeting. The nominating committee reported the following nominations: president, G. W. Olson, Swedish Hospital, Minneapolis; first vice-president, G. H. Murray, More Hospital, Eveleth; second vice-president, Rev. J. A. Krantz, Bethesda Hospital, St. Paul; third vice-president, Sister Mary Joseph, St. Mary's Hospital, Rochester; secretary-treasurer, Frederick Paulson, Norwegian Deaconess Hospital, Minneapolis; executive committee members, Miss Harriett Hartry, St. Barnabas Hospital, Minneapolis; Rev. Henry Hartig, St. Andrews Hospital, Minneapolis; Dr. S. G. Cobb, Cobb Hospital, St. Paul. The committee declined to name more than one candidate for each office and pleaded for unanimous election of its nominees. This was promptly done. Mr. Paulson pleaded his inability to accept the office of secretary-treasurer, on account of lack of time for the duties involved. His resignation was accepted with regrets and Mrs. George G. Eitel, Eitel Hospital, Minneapolis, was elected to the office of secretary-treasurer.

It was decided to hold the first conference of the association some time in November or early December. The fixing of time and place and the preparation of program was left to the executive committee. A number of topics of especial interest to the hospitals in the smaller communities were suggested.

An accredited institution providing a course of training for midwives is soon to be established in Chicago. It probably will be connected with the Cook County Hospital, according to plans outlined by Mrs. Ira Couch Wood, president of the Illinois Training School for Nurses, at a meeting of the Chicago Woman's Club. Another speaker who discussed the proposed institution at the same meeting was Miss Carolyn Van Blarcom, secretary of the Illinois Society for the Prevention of Blindness, who stated that more than half the births in the United States are attended by midwives and that the majority of those who represent themselves as competent midwives are unfit. "Abroad, midwifery is almost a profession," Miss Van Blarcom said, "and it is impossible to convince foreigners that they should not depend upon it in this country." Mrs. Frank Jerome, of the Fellowship House, declared that properly trained midwives are more needed than social workers.

The average man cries for better opportunities, while the fact is that he is literally surrounded with better opportunities but has not fitted himself to make good in any of them.—C. D. Larson.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

Why Not Have All the Variety We Can?

At this season of the year a large number of hustling American people are just emerging from a comparatively dormant period. We have been comfortably housed in warm homes or offices, shutting out the storm, the cold, and much pure, fresh air; we have ridden in stuffy, dirty street cars or in closed automobiles, as the case may be; thereby foregoing the health-giving exercise of walking; other forms of outdoor exercise have been carefully shelved until pleasant weather returns. As a result we are having "liver trouble." Our food is not appetizing; nothing tastes just right; when the sun comes out brightly it shows up all the shiny spots on our clothes and the threadbare spots in our rugs; we have so many things to fret us and it is so easy to find flaws in everyone and everything that we just give ourselves over to this habit of being critical. Nothing is so easy to criticise as our food, especially since, as few of us have the responsibility of preparing it, we know that it is not being given proper attention.

The green things of which we so greatly feel the need in the spring are more difficult than usual to get this season, since the supply from the South was practically cut off by the freezing weather. Not for many years has the supply of fresh fruit and vegetables been so small or so high-priced, but in addition to this the common staple articles are equally high-priced. The dietitian must not only watch every possible corner to prevent waste, but she must also tax her powers to the utmost to avoid monotony in her menus without making the bills such as will cause difficulty from another source.

Seldom have we had to face so great a problem with the use of potato. It has become such a staple article of diet that many people class it as a necessity; especially our employees of the laboring class and doctors are not willing to forego their use. Rice is in every way suited to be used as an alternative for potatoes, but we find people tire of it readily. The unpolished rice has a characteristic flavor which makes it less apt to pall on the appetite than the polished rice. Every hospital serves chicken more or less and the giblets must be used; a rich brown gravy with the finely cut giblets in it served with nicely steamed rice makes a very palatable and highly nutritive luncheon or supper dish, and does away with the need for potatoes and meat, provided a salad or dessert be served with it. The well-known Turkish pilaf made with rice, tomato, and chopped meat or meat stock may be used in the same way. Escalloped potato, or potato au gratin, will require fewer potatoes than are needed if served plain or mashed. Casserole dishes of small portions of meat and vegetables may be made very palatable, and are economical. Finely

minced ham and corn, well seasoned and mixed with bread crumbs, may well furnish the basis for the light meal of the day.

We are learning to use cheese, but it is not yet being given the place it deserves. Cottage cheese or cream cheese, served plain, one time mixed with cream, at another time with salad dressing, again with jam or marmalade or chopped nuts and a dressing, will help to give us variety for several servings. Cream cheese mixed with jam or marmalade makes a most delicious sandwich.

Apples are our one consolation this year, for they have not taken so great a flight upward, and they can be served in so many ways. If properly done, fried apples are very appetizing and may be served as a vegetable; scooping out the center of applies and filling the shells with chopped meat is an excellent way of making a small amount of meat go a long way and is well liked. The pulp which was scooped out may be made into apple sauce. If one has a meat and vegetable chopper these things do not require more labor or time than can be given them in the average hospital. In neither fried apples nor stuffed apples is it necessary to pare the apple.

Many of our fresh vegetables, such as carrots, turnips and beets, are apt to be withered or strong at this season of the year making it necessary to parboil them and serve them with sauces in order to have them appeal to the fastidious appetite. Our old friends onions and cabbage have joined the class of luxuries, so we cannot suggest an intimate acquaintance with them except for flavoring purposes.

When we turn to canned goods we may find ways of changing their flavor, or in some instances restoring the flavor they may have lost. Onion juice or finely chopped onion may be added to many of our green vegetables such as peas, spinach, carrots, and kale. Lima beans and turnips may also be treated in the same way if one likes the combination of stronger flavors. It is not necessary to brown the onion in butter as many housewives do, but it may be cooked in a small amount of water and allowed to boil dry and thereby brown the onion.

Housewives having access to a garden have learned the value of cooking lettuce with peas. There are always coarser leaves or outside leaves which are not desirable for serving in a hospital that could well be utilized for flavoring peas. Tomatoes are a general favorite for flavoring; they are commonly used in baking beans, but they are not commonly used with lima beans, though they might well be.

Kale and Swiss chard are vegetables not generally cultivated, though they are a good addition to our family of greens, particularly Swiss chard, as both the stems and leaves may be used, and they are usually well liked.

Green peppers make almost any sauce more palatable and improve the flavor of many of our casserole dishes. Pimento is equally good for flavoring and more desirable for the sick than green peppers.

Sauces, gravies, and many of our "heavier" vegetables, such as lima beans and navy beans, may have a little curry powder added, though curry powder must be used sparingly, as it is objectionable to many people if too strong.

Genius is talent set on fire by courage. Fidelity is simply daring to be true in small things as well as great. Courage is the standing army of the soul which keeps it from conquest, pillage and slavery.—Henry van Dyke.

Real progress does not consist in wiping out the past. —Sir Dyce Duckworth.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

On the Other Hand: An Affirmative Answer to the Question "Will the Kent Bill Help?" Robert J. Newton. Survey, 1917, XXXVII, No. 19.

Mr. Newton, who is secretary of the Southwestern Conference on Tuberculosis, disagrees with Miss Gertrude Waite (see abstract, THE MODERN HOSPITAL, February, 1917, p. 129). He believes that the Kent bill will tend to diminish the migration of the tuberculous. He assumes that, whenever possible, patients supported indefinitely will be returned by the government and local authorities and that such return will deter other patients in the same communities from going west. Investigation and education to prevent the migration of consumptives who have no means—a course suggested by Miss Waite as an alternative to the Kent bill—will not prevent the death of thousands of American citizens for lack of care and treatment. The Kent bill, in Newton's opinion, is the best measure that can be secured now.

What the State Hospital Can Do in Mental Hygiene. William L. Russell, M. D. Mental Hygiene, 1917, I, No. 1.

Dr. Russell says that the best, and in most states the only, organized agency for dealing medically with mental disorders is the state hospital. Too often, however, the hospital is regarded, not as a source of expert guidance, but as a place where troublesome members of society may be deposited and forgotten. Little or no cooperation exists, therefore, between the hospital and outside physicians. In some states and municipalities, an effort has been made to extend to mental disorders outside of hospitals the knowledge gained within the hospital. The best starting-point for extension work, Dr. Russell remarks, is thorough study of the patients under treatment in the hospitals. This involves study of the families and environment of patients, and knowledge of these factors is of importance when the question of discharge of the patients is under consideration. The parole system, the boarding-out system, and the after-care system have grown out of a recognition of this necessity for extension of the work of the hospital. More recently, social service and out-patient clinics have been undertaken with a view to keeping under supervision patients who have left the hospital and also to giving treatment and advice to patients who have not been in hospital. These clinics are not always conducted at the hospitals, but may be at convenient locations within the hospital district. Thirteen out-patient clinics have been opened in New York State, and nearly all of the Massachusetts hospitals conduct out-patient clinics. Among the patients are children sent to the clinic from school. Talks by hospital physicians to teachers and to parents whose children have been examined at the clinics are recommended as a means

of creating an understanding of the work on the part of the public. Russell believes that hospital extension work will soon "be generally regarded as a definite part of every well-organized state system of dealing with mental disorders."

Hospital Social Service for Children. Henry Dwight Chapin, M. D. Med. Rec., New York, 1917, XCV, No. 9.

No class of hospital patients, says Dr. Chapin, are in more urgent need of social service relief than children. This fact was forced on his attention by the large number of relapsed cases that were returned to the wards after discharge, evidently because poverty or ignorance in the home had quickly undone the work of the hospital. Notwithstanding this, the danger of cross-infection makes the hospital a poor place for the convalescent child.

Dr. Chapin therefore organized a visiting service, originally volunteer, for children discharged from hospital. Increase in volume and importance of work necessitated the employment of a paid visitor, at first a woman physician, but later a trained nurse. The aim was threefold: (1) to make the relief given by the hospital as permanent as possible, through immediate material relief if necessary, or through instruction of the mother in diet or other factors; (2) to find out the underlying cause of the child's sickness, so as to prevent a recurrence in this particular case; (3) to make a broad study of social conditions and disability in the community served by the hospital. The information collected by the visitor includes: condition of child second week after return home; intelligent care of child; physical condition of parents; sanitary condition of house; number of rooms, number light, number dark, number on airshaft; sanitary condition of street—fault of landlord or of city.

Housing conditions were found frequently very bad, and many families were in extreme poverty. In 173 families the average income was from $1 to $5 weekly, and in 379 families it was from $5 to $10 weekly. In 1,000 cases tabulated from November, 1914, to November, 1916, 557 were large (over 5) and 443 were small (less than 5). Most of the families earning the higher wages were small, while the large families were almost invariably in the low-wage class. "As far as the hospital is concerned," concludes Chapin, "social service and prevention are closely allied."

Heliotherapy; the Climatic Station at Leysin, Switzerland. Dr. E. St.-Jacques. Union méd. du Canada, 1917, XLVI, No. 1.

Sunlight as a therapeutic agent has been known for centuries, but the honor of having established its systematic use in the treatment of tuberculosis belongs to Dr. Rollier, a Swiss physician. Leysin is a small village in the Canton of Vaud. Its altitude is about 4,000 feet above the valley of the Rhone river. Mountains, rising 2,000 feet higher, protect it from the cold winds of the north and northwest. The climate is most favorable, as the sunlight is rarely cut off by clouds and fogs. Numerous patients flock to this little place. Rollin has here erected three large buildings for the treatment of tuberculosis. There is also an English sanatorium, besides several other institutions and the Grand Hotel Sanatorium.

The treatment consists in the direct exposure of the body to the sun's rays. This is done gradually, to get the body accustomed to the powerful action of the sun. The results in the treatment of surgical tuberculosis have been most remarkable, but pulmonary tuberculosis has likewise proved to be amenable to this method of treatment.

Possibilities in Social Service for Psychopathic Patients. Mary C. Jarrett, Boston Med. and Surg. Jour., 1917, CLXXVI, No. 6.

The New York State Hospital Commission recently began the work of organizing social service in the fourteen state hospitals, only two of which already have social workers. Six of the Massachusetts state hospitals have made a beginning with one social worker in each hospital, except the Psychopathic Hospital, which has two on public salary. Letters of inquiry elicited the fact that only two other states have attempted any organized form of social service in hospitals for the insane, though plans for social work are under consideration in the state hospitals of several other states. The two states in which it has already been installed are Minnesota, which has one visitor in one of its five hospitals, and Wisconsin, which has one visitor for each of its two hospitals.

Miss Jarrett, who is chief of social service at the Psychopathic Hospital, classes the advantages of the work under three heads: (1) aid to the physician in diagnosis of individual cases and study of certain medical problems; (2) service to the community in preventing families of patients from drifting into privation and dependence and in securing the early treatment of psychopathic members of patients' families; (3) the saving of expense to the state in the prevention of crimes by psychopathic persons.

Education of the Left Hand of Disabled Sailors and Soldiers. C. W. Hutt, M. D. Lancet, London, 1917, I, No. 14.

Dr. Hutt describes the work of M. Tamenne, a Belgian refugee, who since July, 1915, has been instructing disabled soldiers at the Ecole Professionnelle des Blessés at Montpellier in the use of their left hands. M. Tamenne lost his right forearm when he was sixteen years old, but he has so reeducated himself that he can carry out without assistance the small operations of daily life, such as shaving, buttoning collars, lacing shoes, and tying shoelaces, and cutting up food. In addition he has learned and is able to teach writing, shorthand, and typewriting in which the left hand only is used. Those convalescent men from the military hospitals at Montpellier who need such instruction attend his classes daily in the afternoon; over one hundred and thirty have now passed through the course.

M. Tamenne emphasizes the importance of learning to write with the left hand in a style resembling as closely as possible the former handwriting. To change the style of handwriting, he believes, encourages the men to regard themselves as handicapped. The writing taught, therefore, has the same slope as ordinary writing. Clearness and legibility characterize a specimen of the handwriting of a discharged soldier with a paralyzed right arm, reproduced by the *Lancet*.

Health Center Field Work. Arthur C. Schaefer, M. D. New York State Jour. Med., 1917, XVII, No. 4.

The field work of the health centers conducted in Buffalo comprises: sanitation and tenement service; medical school inspection; examination and disposition of cases of mental subnormality, backwardness in school, and feeblemindedness; school nursing; tuberculosis nursing; care and instruction before, during, and after confinement; supervision of midwives; supervision of homes receiving children for board; supervision of children whose mothers receive pensions as widowed mothers; domestic science instruction; cooperation with other medical and social agencies in cases of unemployment, intemperance, wife desertion or abuse, neglect of homes or failure to support, need of institutional care for the aged, etc.

BOOK REVIEWS

Handicrafts for the Handicapped. By Herbert J. Hall, M. D., and Mertice M. C. Buck, authors of "The Work of Our Hands." Pp. 155, with illustrations. Cloth, $1.25. Moffat, Yard & Co., New York, 1916.

For some time the principle of providing occupations for invalids, convalescents, cripples, and other handicapped persons has been gaining acceptance, for two reasons. One is the good of the patient himself; the other is the good of society. When the patient's physical condition permits him to work, occupation is a physical, mental, and moral benefit to him. Moreover, if he can be made partially or wholly self-supporting, society is to that degree relieved of a burden.

For ten years or more Dr. Hall has made use of work as a therapeutic agent in his treatment of nervous disability. In connection with his private sanatorium at Marblehead he has developed for the benefit of handicapped patients the three industries of pottery, hand weaving, and cement working. As he himself has said, the fact that none of these industries has gone bankrupt, "although managed a good deal of the time without especial business ability, speaks volumes for the vitality of the idea." Miss Buck, his collaborator, is a teacher of many years' experience with handicapped patients. The present volume is in the nature of a text-book for several industries adapted to the use of the handicapped, such as basketry, weaving, bookbinding, pottery making, and cement working. An appendix furnishes a list of books on crafts and dealers in craft-work supplies.

The Joyous Art of Gardening. A Book of First Aid to the Amateur. By Frances Duncan, Member of Council, Women's National Farm and Garden Association, Author of "My Garden Doctor," etc. Cloth, $1.75 net. Pp. 239, illustrated. Charles Scribner's Sons, New York, 1917.

The Wayside Flowers of Summer. A Study of the Conspicuous Herbaceous Plants Blooming Upon Our Northern Roadsides During the Months of July and August. By Harriet L. Keeler. Cloth, $1.35 net. Pp. 288, illustrated with 8 colored plates and 124 halftones and line drawings by Mary Keffer. Charles Scribner's Sons, New York, 1917.

These two charming little volumes, we venture to say, will be hailed with joy by directors of occupation and diversion. Miss Duncan's book, with its inviting title, is surely just the one to use in working with a patient who needs to be coaxed into the outdoors. It "is meant especially for him who is not yet a gardener, but would like to be—for Pilgrim starting for the Delectable Mountains, as it were, rather than for Pilgrim arrived"—and is written, not in the dry and technical vein of the gardening pedant, but with all the fresh enthusiasm of one to whom gardening is indeed a joyous art. The hints on how to fit the garden to the house, what to do with the back-yard fence, what can be done with a lattice, are as delightful to read as they are stimulating to the amateur gardener. The directions are simple and clear.

Miss Keeler's little book is equally satisfactory in its way. It is not a book to be read, but one to be taken as a companion on summer rambles and consulted when one wants an introduction to the roadside flowers. Pictures, some in color, enable the unlearned reader to identify a floral stranger, and a brief botanical description completes the identification. Then follows some bit of poetry, of historical or legendary lore, or other interesting information about the flower in question. A very present help this little book will prove to the director of diversion when she takes her classes out for country rambles.

Rake Knitting and Its Special Adaptation to Invalid Workers. By Susan E. Tracy, R. N., author of "Studies in Invalid Occupation." Pp. 34. Paper, 25 cents net. Whitcomb & Barrows, Boston, 1916.

Rake knitting—that is, knitting on a specially devised coarse wooden rake—is an occupation said to possess special advantages for invalid workers. As a to-and-fro process, it is a sedative form of work; yet it allows of experiment and variation. The work is quickly finished, which is encouraging to the depressed invalid. It is adapted to both men and women. The tool may be used in any position; being large, it is not easily lost; and, having no sharp points, it is safe in the hands of the insane. Directions for making afghans, mufflers, hoods, caps, jackets, sweaters, hand bags, and rope rugs are given in this little pamphlet.

FLY POISON AND THE BABY

Supposed Summer Diarrhea and Cholera Infantum Often Due to Fly Poison—Better Find Other Ways of Destroying Flies Than With Arsenic Fly Poison

The December issue of *Child Betterment and Social Welfare* contained a timely editorial on the appalling number of child poisoning cases from the use of arsenical fly destroyers reported in the past three years. It states that the press has reported 106 cases during 1914, 1915 and 1916, many of which were fatal. When it is considered that this number is but a fraction of the real number, that many supposed cholera infantum cases are really arsenic fly poison, one wonders how anyone would risk such a calamity.

But there seems to be an inexplicable carelessness in the use of these deadly poisons, which is perhaps due to ignorance as to their real composition. But let us state right now that the poison paper you put in a saucer of water and set on the window sill, and the can with the poisoned wick are both *arsenic*—one of the deadliest of poisons.

The United States Government has taken notice of this apparently disregarded danger to the lives of little children, and issued the following warning in a public health service bulletin recently published: "Of fly poisons mention should be made, merely for the purpose of condemnation, of those composed of arsenic. Fatal cases of the poisoning of children through the use of such compounds are far too frequent, and, owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, we believe that the cases reported do not, by any means, comprise the total. Arsenical fly destroying devices must, therefore, be rated as extremely dangerous and should never be used, even if other measures are not at hand."

Man has in him by nature but one good thing, the capability of improvement.—Stuart Mill.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Hand-Driven Circular Saw for Cutting Bone Transplants, Etc.

During the last few years we have illustrated and described for the readers of THE MODERN HOSPITAL quite a variety of electrically-driven apparatus intended for the purpose of cutting bone grafts from the tibia, for the repair of fractures, for cranial surgery, as well as for use in mastoid and sinus operations, and the demand for this class of apparatus seems to be on the increase. This is no doubt due mainly to the fact that surgeons all over the country are showing a marked preference for the human bone graft and other absorbable material, and are using fewer steel plates and steel nails than formerly, in their fracture work.

Drs. H. A. Shaw and J. T. Mason, of Seattle, the originators of the apparatus illustrated, were of the opinion that the use of bone grafts would be even more extensive and the fracture work generally improved if the average surgeon who is not so fortunate as to be connected with a large hospital where an electrically-driven bone saw is at his disposal, could obtain an efficient apparatus at a cost of about one-third of that required to purchase the electrically-driven outfit. With this end in view the inventors began experimenting with a hand-driven bone saw, and the final result is the apparatus illustrated in its complete form in Fig. 1. Realizing how absolutely essential the element of asepsis is in bone work, their first thought was to devise an instrument that would allow complete sterilization, having no link, such as electric wires or shafts, to connect a sterile with an unsterile field.

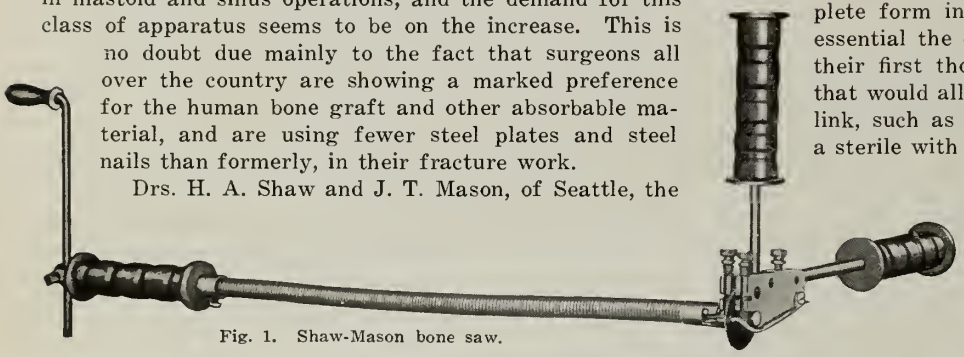


Fig. 1. Shaw-Mason bone saw.

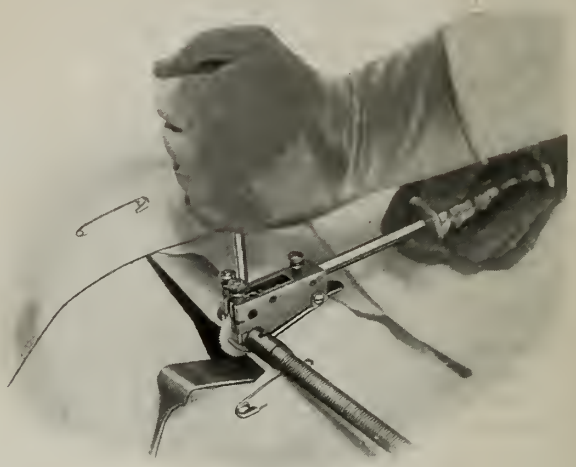


Fig. 3. Cross-cutting a tibial transplant.

Other points in favor of the practical application and utility of this instrument are its compactness, as it can be carried easily in an ordinary surgical bag, and the fact that it cuts at any angle, direction, or depth, the latter being accurately controlled by a thumbscrew attachment; that the apparatus depends on no particular voltage, amperage, or quality of current; that it can be used in the axis of the shaft of long bones without displacing the same

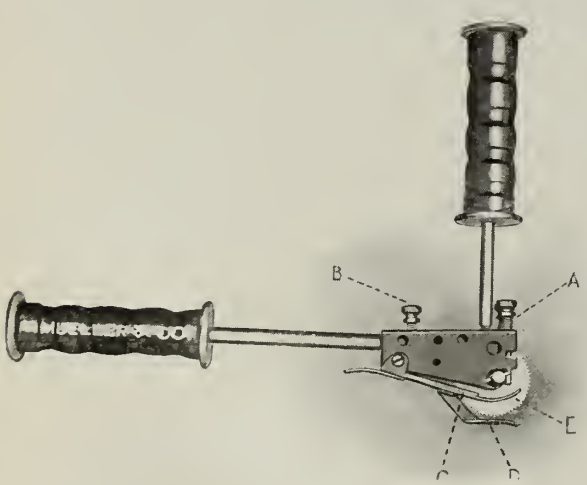


Fig. 2. Saw assembled, but not attached to flexible shaft. A, thumbscrew, one-fourth turn releases saw; B, thumbscrew which regulates depth of guard and consequently depth of cut; C, guard; D, subguard, which protects dura and is used only in cranial work; E, circular saw blade.

Fig. 4. Splitting spinous process in Albee operation.

from their normal bed, thereby preserving the blood supply.

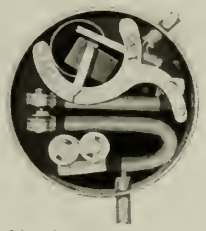
The inventors state that during the experimental stage the criticism was offered that a saw geared one to one would not develop the necessary efficiency. They have found, however, under many and varied applications, that the size, angularity, and set of the teeth were the elemental factors in the cutting qualities, and not entirely the speed.

The saws can be changed quickly, and on account of the low speed do not heat, and consequently do not destroy the osteogenetic properties of bone. Bone drills, reamers, and trephines can be furnished and used with the apparatus, in addition to the single or twin saws.

Goodwill Electric Heating Pad

Here is a new electric pad which deserves consideration on account of its sturdy construction and the electric thermostat which forms an important part of the device.

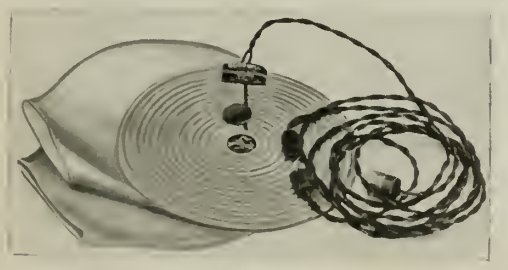
The pad is circular in shape, it being the belief of the designers that this form adapts itself best for all general



Goodwill adjustable thermostat controller, actual size.

purposes. It is of very flexible material and can be bent into any shape without danger of breaking either of the two circuits which carry the current.

It is generally known that practically all natural and physical actions take place more rapidly and effectively under temperatures above the normal. The blood circulation is more rapid and the process of repair is stimulated and hastened. Heat being one of the great counter irritants, it is to be considered that the uses of a continuous heat at exactly the desired temperature are innumerable. The claim made by the manufacturers of this pad is, that by means of the thermostat an exactly even temperature may be maintained for an indefinite time. This thermostat is adjusted to 120 degrees F., when it leaves the factory,



The Goodwill electric pad.

but in a moment's time one can regulate the controller for a temperature from 100 to 120 degrees. In order to make this change in heat regulation, it is only necessary to lift off a metal cap which covers the controller and move the indicating pointer shown in the illustration. The entire regulating device occupies a space in the center of the pad measuring one inch in diameter.

Each pad is supplied with both a cotton flannel slip cover and a waterproof rubber cover, the latter being used when wet applications are to be made or where there is any possibility of moisture.

Sterilizing Outfit for Hypodermic Syringes

A new sterilizing jar has been put on the market under the name of the Vim sterilizer jar. The syringe and needle are immersed in alcohol by being supported on a perforated glass shelf which rests upon a shoulder molded

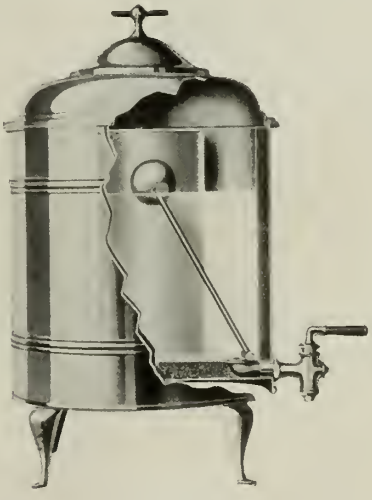
Vim sterilizer jar.

into the wall of the jar itself. The cover of the jar is ground to fit the body, so there is little chance of evaporation of the sterilizing solution. The outfit, therefore, provides a safe, economical, and attractive method of keeping the hypodermic syringes and needles always sterile and ready for immediate use.

The Lyons Milk Urn

The claim has been made that in handling milk in bulk (not bottled) 10 percent is wasted through careless handling, dripping from the faucet, overfilling milk glasses or cream pitchers, improper cooling, improperly mixed milk, etc.

Again, in the handling of food probably no item offers



Lyons milk urn.

greater opportunity for contamination than milk or cream, especially during the summer months. The Lyons milk urn, here illustrated, successfully overcomes all of this

waste and delivers exactly the right amount of milk in the correct mixture of cream content.

In the ordinary form of urn all milk is drawn from the bottom of the container. Unless the milk is agitated occasionally, the last milk drawn naturally contains a higher percentage of cream than the first, and generally several drops are lost in dripping. The Lyons urn is provided with an improved type of faucet, having attached to it by means of a hollow swivel arm the float shown in the illustration. A porthole in the float permits of a portion of the milk from the top being drawn down through the arm or tube, so that just the right mixture of milk and cream is always delivered, whether the urn is full or nearly empty, and whether or not the milk has been standing several hours. When the faucet is turned off, not a drop of milk is left to be wasted in dripping.

The urn has a double wall, insulated with ground cork, which it is claimed will permit of dispensing with ice excepting in very warm weather. A removable ice container is supplied with each urn.

The construction is of the best, heavy copper, tinned inside, being used. The cover has a double shoulder, making a perfectly tight fit.

These urns can be had in a variety of finishes and in capacities of from 10 to 100 quarts.

Safety Operating Lamp

Many surgeons know of instances where the electric light suddenly failed during the performance of a more or less important operation, and hospital administrators as well as the surgeons realize that serious consequences may follow from such failure during operation. No operating room should be without some preparation for such an emergency, in order to make light available instantly. Such safeguards are especially necessary in smaller cities

Fig. 1. The safety operating lamp.

where the electric light service is not derived from a number of interconnected stations, but depends as a rule for its continuity upon a single dynamo, and where, consequently, the risk of interruption of the service is far greater than in the large city hospital.

The "safety operating lamp" shown in the accompanying illustrations overcomes this serious danger, because, in the event of the failure of the electric current, a powerful gas light is immediately available, and "immediately" in this case means in one or two seconds.

The gas light is contained within the lamp, is reflected by the same surfaces that reflect the electric light, and is as efficient for operating purposes as the electric light. To obtain the gas light no more is needed than a pull on the knob shown in the diagram. This knob hangs on the edge

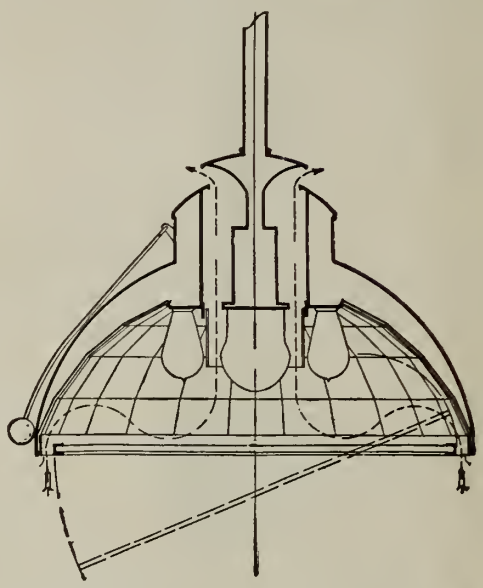


Fig. 2. Showing details of the two lighting systems.

of the lamp, directly over the table and can readily be found in the dark.

A ventilating feature is provided which removes heat. The electric and gas lights, if used together, neutralize each other in color, producing a mixed light which is like daylight in quality and in which the condition of tissues, as evidenced by the colors, can be judged with accuracy.

The lamp is constructed of brass and copper, finished in white enamel. The bottom is made of polished wire glass, affording safety in the event of the bursting of an electric bulb, as this glass will not fall if cracked.

Blood Needle for Wassermann Test

A simple yet apparently practical needle for drawing blood for use in the Wassermann test has been devised and put on the market recently by Messrs. F. S. Banks & Co.

Banks blood needle.

of New York. The illustration practically explains itself. In order to secure the required specimen of blood, the needle is grasped by the hub, the vein is punctured, and the blood will then flow from the short end and is collected in a test tube.

Dr. Lewis A. Sexton, who has been assistant superintendent in charge of the out-patient department of the Johns Hopkins Hospital for the last two years, has recently accepted an appointment as superintendent of the Hartford Hospital, Hartford, Conn. Dr. Sexton is a native of Nashville, Tenn., where he graduated from the medical department of Vanderbilt University in 1906. For six years he was resident physician at the Willard Parker Hospital in New York city. In 1914 he became connected with Johns Hopkins Hospital as assistant superintendent, first being in charge of the admitting office and then going to the out-patient department.

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